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DAILY PROGRAMME

OF THE

TWENTY-SEVENTH MEETING

OF THE

MERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE.

'ommencing Wednesday, August 21st, 1878,

AT ST. LOUIS, MISSOURI.

ST. LOUIS, MO.,
PUBLISHED BY THE LOCAL COMMITTEE,
PRINTED BY MAX OLSHAUSEN.
1878.

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THE ST. LOUIS MEETING.

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ROBERT H. THURSTON, of Hoboken.

VICE PRESIDENT, SECTION B.
AUG. R. GROTE, of Buffalo.

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F. W. CLARK, of Cincinnati.

CHAIRMAN OF SUBSECTION OF MICROSCOPY.
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H. CARRINGTON BOLTON, of Hartford.

SECRETARY OF SECTION A.
F. E. NIPHER, of St. Louis.

SECRETARY OF SECTION B.
GEORGE LITTLE, of Atlanta.

TREASURER.
WILLIAM S. VAUX, of Philadelphia.

STANDING COMMITTEE.

Past Presidents.—BENJAMIN PEIRCE, of Cambridge; JAMES D. DANA, of New Haven; JAMES HALL, of Albany; STEPHEN ALEXANDER, of Princeton; ISAAC LEA, of Philadelphia; F. A. P. BARNARD, of New York; J. S. NEWBERRY, of New York; B. A. GOULD, of Boston; T. STERRY HUNT, of Boston; ASA GRAY, of Cambridge; J. LAWRENCE SMITH, of Louisville; JOSEPH LOVERING, of Cambridge; JOHN L. LECONTE, of Philadelphia; J. E. HILGARD, of Washington; WILLIAM B. ROGERS, of Boston.

The President, Vice Presidents, Secretaries and Treasurer of the Meeting.

Officers of the Preceeding Meeting—SIMON NEWCOMB, of Washington; EDWARD C. PICKERING, of Cambridge; WILLIAM H. DALL, of Washington.

From the Association at large—Six Fellows to be elected on the first day of the meeting.

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SPECIAL COMMITTEES.

A. COMMITTEES CONTINUED FROM FORMER MEETINGS.

1. *Permanent Committee on Weights, Measures and Coinage.*

F. A. P. BARNARD, of New York,
WOLCOTT GIBBS, of Cambridge,
B. A. GOULD, of Boston,
J. E. HILGARD, of Washington,
JOHN LECONTE, of Oakland,
H. A. NEWTON, of New Haven,
BENJAMIN PEIRCE, of Cambridge,
WILLIAM B. ROGERS, of Boston,
J. LAWRENCE SMITH, of Louisville,
E. B. ELLIOTT, of Washington.

2. *Committee to Memorialize the Legislature of New York for a New Survey of Niagara Falls.*

F. A. P. BARNARD, of New York,
CHARLES P. DALY, of New York,
JAMES HALL, of Albany,
G. W. HOLLEY, of Niagara Falls.

3. *Committee to Memorialize Congress and State Legislatures regarding the Cultivation of Timber, and the Preservation of Forests.*

F. B. HOUGH, of Lowville,
ASA GRAY, of Cambridge,
G. B. EMERSON, of Boston,
J. D. WHITNEY, of Cambridge,
J. S. NEWBERRY, of Cleveland,
L. H. MORGAN, of Rochester,
CHAS. WHITTLESEY, of Cleveland,
W. H. BREWER, of New Haven.
E. W. HILGARD, of Berkeley.

4. *Committee on International Congress of Geologists.*

William B. Rogers, of Boston; James Hall, of Albany; J. W. Dawson, of Montreal; J. S. Newberry, of New York; T. Sterry Hunt, of Boston; C. H. Hitchcock, of Hanover; Raphael Pumpelly, of Owego; T. P. Lesley, of Philadelphia.

In connection with Dr. Otto Torell, of Stockholm; Dr. E. H. von Baumhauer, of Haarlem; Prof. T. H. Huxley, of London; Prof. A. C. Ramsay, of London; and the Presidents of the Geological Societies of France, London, Edinburgh, Dublin, Berlin, Belgium, Italy, Spain, Portugal, and the Imperial Geological Institute of Vienna.

5. *Committee to Audit the Accounts of the Permanent Secretary and Treasurer.*

Henry Wheatland, of Salem
S. H. Scudder, of Cambridge.

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B. NEW COMMITTEES.

1. Committee to obtain Permanent Funds for the Association, and to advise with Treasurer and Permanent Secretary on financial matters.

[The members of this Committee to be appointed at St. Louis Meeting.]

2. Committee to Memorialize Congress in relation to the Yellowstone National Park.

T. B. Comstock, of Ithaca; O. C. Marsh, of New Haven; George M. Wheeler, of Washington; J. W. Powell, of Washington.

3. Committee on the Introduction of Science into the Schools.

J. D. Runkle, of Boston; A. R. Grote, of Buffalo; N. S. Shaler, of Cambridge; J. W. Powell, of Washington; N. T. Lupton, of Nashville.

4. Committee on the Relation of Science to the Industrial Arts.

R. H. Thurston, of Hoboken; J. M. Safford, of Nashville; J. T. Wilder, of Chattanooga; O. Chanute, of New York.

5. Committee to Memorialize Congress in relation to Meteorological Researches.

Elias Loomis, of New Haven; N. S. Shaler, of Cambridge; G. Hinrichs, of Iowa City; J. B. Killebrew, of Nashville.

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LOCAL COMMITTEE FOR THE ST. LOUIS MEETING.

Chairman:—Chancellor W. G. ELIOT.

Treasurer:—Judge CHARLES SPECK.

Secretary:—Prof. JOHN K. REES.

SUBCOMMITTEES.

Reception:—Hon. THOMAS ALLEN, *Chairman*; Henry Hitchcock, *Mayor* Overstolz, James B. Eads, Theodore Meier, Thomas Richeson, Judge Samuel Treat, Wm. T. Harris, Dr. J. B. Johnson, Gen. J. H. Simpson, Gerard B. Allen, Dr. C. W. Stevens, Albert Todd, Dr. George Engelmann, J. R. Shepley, James E. Yeatman, George D. Hall, Dr. E. S. Lemoine, R. M. Scruggs, Gen. J. W. Turner, Judge Nathaniel Holmes, James O. Broadhead, John T. Davis, M. Dwight Collier, Capt. Silas Bent, Moses Fraley, Charles Parsons, Rev. J. C. Learned, Henry Shaw, Dr. Leet, Edwin Harrison, Dr. S. H. Sonnenschein, J. K. Cummings, Wm. Glasgow, Jr., Erastus Wells, John B. Maude, Julius S. Walsh, Rev. Dr. Niccolls, Nathan Cole, M. J. Lippman, Rev. Dr. M. Schuyler, Judge H. M. Jones, Morris Rosenheim, D. R. Garrison, S. M. Dodd, Judge Lindley, Prof. W. B. Potter, Hon. Enos Clarke, Prof. F. E. Nipher, A. Krieckhaus.

Finance:—Judge CHARLES Speck, *Chairman*; George Bain, E. O. Stanard, R. M. Scruggs, Thomas E. Tutt, M. Fraley, John B. Maude, Charles Barstow, S. H. Laflin, Auguste Frank, George J. Engelmann, Regis Chauvenet, Wm. J. Lemp, Dr. W. C. Glasgow, John N. Dyer, Adolph Busch, Wm. M. Senter, Wm. P. Shryock.

Excursions and Entertainments:—GEORGE BAIN, *Chairman*: E. T. Allen, E. A. Hitchcock, Eben Richards, John A. Scudder, D. K. Ferguson, Rev. John Snyder, C. P. Johnson, Isidor Busch, A. J. Conant.

Railroads:—WM. TAUSSIG, *Chairman*; John E. Simpson, C.W. Bradley, Wm. Duncan, John J. Mitchell, C. C. Cobb, A. W. Soper, George H. Heafford, James F. Howe, R. P. Tansey.

Printing:—ENNO SANDER, *Chairman*; Wm. Hyde, D. M. Houser, B. M. Chambers, John A. Dillon, Carl Daenzer, E. Preetorius, A. E. Levison, R. P. Studley.

Telegraph and Mail:—CHAUNCEY I. FILLEY, *Chairman*; Col. R. C. Clowry.

Microscopes:—Dr. GEORGE J. ENGELMANN, *Chairman*; Dr. J. Green, Dr. A. Litton, Dr. G. Hambach.

Arrangements:—W. H. PULSIFER, *Chairman*; Prof. W. B. Potter, E. C. Simmons, F. A. Churchill.

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NOTICE BY THE LOCAL COMMITTEE.

The necessary Rooms in the Washington University, corner of Washington Avenue and 17th Street, have been secured for the use of the Association, and all the General and Sectional Sessions will be held there.

Rooms in the University for the various purposes of the Association have been assigned as follows:

Head-quarters of the Local Committee, Association Post Office, and Office of Permanent Secretary: Room on first floor.

Standing Committee: Room on first floor.

General Session: Chapel of University, 3rd floor.

Section A: Chapel, 3rd floor

Section B: Room 10 (Library) 2nd floor.

Subsection C: Chemistry, Room 2, 1st floor.

Subsection D: Microscopy, Room 4, 1st floor.

Other rooms in the building are reserved for such Subsections as may be organized.

Room 22 at the Lindell Hotel is also secured for the use of the Association, and will be the office of the Permanent Secretary, and of the Local Committee, when the Association is not in session.

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NOTICE BY THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary as soon as possible after arrival, to register their names and receive their members' tickets.

All assessments and admission fees must be paid to the Permanent Secretary, or his Assistant.

Blanks for entering the Titles of Communications can be had at the office of the Permanent Secretary.

A list of newly-elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members to the Permanent Secretary.

A Subscription Book for the St. Louis volume will be opened at the office of the Permanent Secretary, and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50, or more, will receive a copy of the St. Louis volume, by mail, as soon as published.

Back volumes of the Proceedings can be had at the office of the Permanent Secretary, at $1.50 per volume. Any member requiring ten or more volumes to complete his set, may obtain them at $1.00 a copy.

Copies of the Transactions of the Association of Geologists and Naturalists can be had for $3.00.

Bound volumes of the Proceedings (26 vols.) are furnished at the office of the Permanent Secretary, for $1.00 a volume extra, bound in one-half Turkey morocco; or 50 cents a volume extra (by mail 60 cents), bound in cloth. Uniform cloth covers for all the volumes can be had at 25 cents each (by mail 30 cents.)

The Memoirs of the Association, No. 1, are furnished at $1.00 a copy at the office of the Permanent Secretary.

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TITLES OF PAPERS ENTERED FOR ST. LOUIS MEETING.

The rules require that every paper, or an abstract of it, be sent to the Standing Committee, through the Permanent Secretary, before the title can be transmitted by the Standing Committee to the Sectional Committees. Authors who have not sent in abstracts of their papers should therefore do so as soon as possible.

(CONTINUED FROM PAGE 38.)

89. On recent progress in Microscopy. (15 m.)..... R. H. Ward.
90. On a Standard Inch and a Standard Centimetre (15 m.)..... Wm. A. Rogers.
91. The Aerion; its theories, illustrations and references. (5 m.)..... Ira H. Stout.
92. Exhibition of Prehistoric relics from Missouri. (15 m.)..... A. J. Conant.
93. An account of an exploration of a Walled Town of the Moundbuilders of the Cumberland Valley. (15 m.)..... F. W. Putnam.
94. On Improvements in Electric Clock Systems. (15 m.)..... F. E. Nipher.
95. On the Compass Plants. (10 m.)..... George Engelmann.
96. On the Discovery of a Human Skull in the Drift near Denver, Colorado. (20 m.)..... Thomas Belt.
97. Discovery of Atlantosaurus and other Dinosaurs in the Rocky Mountains of Colorado. (15 m.) A. Lakes.
98. International Coinage. (20 m.)..... E. B. Elliott.
99. Internal Revenue Adjustment of the Carlisle Tables, (15 m.)..... E. B. Elliott.
100. Biological Notes on the Gall-making Pemphigini. (10 m.)..... C. V. Riley.
101. The Alleged Volcano at Bald Mt., North Carolina. (10 m.)..... F. W. Clarke.
102. On an error in estimating the strength of a steam boiler. (5 m.)..... Samuel Marsden.
103. The Gold Region of Georgia, (15 m.)..... George Little.

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LIST OF MEMBERS REGISTERED.

1. B. F. Mudge. Manhattan, Kas.
2. Tyler McWhorter. Aledo, Ills., Laclede Hotel.
3. John G. Henderson, Winchester, Ills., Lindell Hotel.
4. J. A. Lintner, N.Y. State Museum of Nat. Hist., Albany, N.Y.
5. H. Carrington Bolton, Hartford, Conn., Lindell Hotel.
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8. A. R. Grote, Buffalo, N. Y., Lindell Hotel.
9. A. G. Wetherby, Cincinnati, Ohio, Lindell Hotel.
10. J. H. Kellogg, Battle Creek, Mich., Lindell Hotel.
11. Fred. Hilder, St. Louis, 604 N. 4th St.
12. Emily A. Smith, Peoria, Ills., 1521 Chouteau Ave.
13. F. B. David, Cambridge, Mass., Lindell Hotel.
14. O. C. Marsh, New Haven, Conn., Lindell Hotel.
15. J. K. Rees, St. Louis, Washington University.
16. C. B. Metcalf, Worcester, Mass., Lindell Hotel.
17. Edmund B. Reed, London, Canada, Lindell Hotel.
18. W. H. H. Russel, St. Louis, 322 Chesnut St.
19. N. B. Walker, New York, 19 Cliff St.
20. F. W. Putnam, Cambridge, Mass., Lindell Hotel.
21. C. V. Riley, Washington, D. C.
22. Chas. W. Palfray, Salem, Mass., Lindell Hotel.
23. F. C. A. Richardson, St. Louis, Mo.
24. Francis E. Nipher, " " " Washington University.
25. Lewis H. Morgan, Rochester, N. Y., Lindell Hotel.
26. Wm. I. Marshall, Fitchburg, Mass., " "
27. H. Kinner, St. Louis.
28. J. T. Lovewell, Prairie du Chien, Lindell Hotel.
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30. Mrs. Thomas Bassnett, " " " "
31. Wm. Leroy Broun, Nashville, Tenn. " "
32. Jas. M. Safford, " " " "
33. Alex. Rosenspitz " " " "
34. F. W. Clarke, Cincinnati, O., Lindell Hotel.
35. Lester F. Ward, Washington, D. C., Lindell Hotel.
36. J. W. Osborne, " " " "

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38. Benj. S. Hedrick, Washington, D. C., " "
39. C. W. Johnson, Atchison, Kansas, Hurst Hotel, 4th st.
40. Samuel S. Laws, Mo. University, Lindell Hotel.
41. A. P. S. Stuart, Lincoln, Nebr., Lindell Hotel.
42. Wm. Ferrel, Washington, D. C.
43. D. G. Eaton, Brooklyn, N. Y. " "
44. Henry C. Lewis, Germantown, Phil., " "
45. J. C. Arthur, Ames, Iowa, ——
46. Alfred Springer, Cincinnati, O., Lindell Hotel.
47. P. H. Van der Weyde, New York, City, Lindell Hotel.
48. A. B. Hervey, Troy, N. Y., Lindell Hotel.
49. R. H. Ward, " " Lindell Hotel.
50. Joseph Ficklin, University of Mo., ——
51. W. H. Pulsifer, St Louis, 1837 Kennet Place
52. Alex. Hogg, College Station, Texas, Lindell Hotel.
53. Thos. J Lowry, Columbia, Mo, " "
54. A. H. Worthen, Springfield, Ill, Planters House.
55. Leander Stone, Chicago, Ill, " "
56. T. A. Wylie, Bloomington, Ind. Everrett House.
57. G. C. Broadhead, Pleasant Hill, Mo, at J Broadhead's.
58. O. T. Mason, Washington, D. C. Lindell Hotel
59. Mrs. Leander Stone, Chicago, Ill, Planters House.
60. J. E. Farnam, Georgetown College, Ky., Lindell Hotel.
61. Albert A. Michelson, Annapolis, Maryland, Laclede Hotel.
62. Isaac E. Hasbrouck, New Brunswick, N. J., Lindell Hotel.
63. S. H. Trowbridge, Glasgow, Mo., Planters House.
64. Simon Newcomb, Washington, D. C., 2703 Lucas Ave.
65. George Engelmann, St. Louis, Mo., 3003 Locust Street.
66. Ed. Bausch, Rochester, N. Y., Lindell Hotel.
67. S. A. Lattimore, " " 4100 Olive st
68. P. Schweitzer, Univ of Mo, Lindell Hotel.
69. C. S. Percival, Marshalltown, Iowa, 1215 Grattan st.
70. J. E. Todd, Tabor, Iowa, ———
71. E. A. Dalrymple, Baltimore, Md, Lindell Hotel
72. J. R. Walker, New Orleans, La, ———
73. H. E. Storrs, Jacksonville, Ills., Lindell Hotel.
74. Geo. J. Engelmann, St Louis, Mo., 3003 Locust st
75. Chas. A. Smith, " " 1518 Lafayette Ave.
76. Geo. H. Perkins, Burlington, Vt., ———

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77. Thos. R. Baker, Millersville, Pa , Planters House.
78. Arthur Oehler, Highland, Ills , 215 S. 14th st.
79. Arthur H Elliott, Peekskill, N. Y , ———
80. Mrs. L. H. Trowbridge, Detroit, Mich., Hotel Belvedere.
81. Jno. A. Miller, Paducah, Ky., South St. Louis.
82. Geo. W. Letterman, Allenton, Mo., ———
83. L. H. Trowbridge, Detroit, Mich., Hotel Belvedere.
84. Thos. D. Robertson, Rockford, Ills., ———
85. Thomas A. Edison, Menlo Park, N. J., Lindell Hotel.
86. Geo F. Barker, Philadelphia, Pa , " "
87. S A. Forbes, Normal, Ills , Planters House.
88. J. G Barnard, New York City, Lindell Hotel.
89. Wm. H Pitt, Buffalo, N. Y , " "
90. Jos T Tatum, St Louis, Mo , 221 Chesnut st.
91. Frank J Donovan, " " 3rd and Pine sts.
92. Henry A Ward, Rochester, N. Y , Hurst's Hotel.
93. M. Benjamin, New York, Lindell Hotel.
94. Chas. O. Whitman, Beverly, Mass., Lindell Hotel.
95. Samuel J. Wallace, Keokuk, Iowa, 1214 Madison st.
96. Chas. Rominger, Ann Arbor, Mich., Planters House.
97. A. Litton, St. Louis, Mo., 2220 Eugenia st.
98. D. Mooar, Keokuk, Iowa, 172 Lindell Hotel.
99. R. D. Shannon, Jefferson City, 2132 Clark Ave.
100. Albert A. Wright, Oberlin, O., Lindell Hotel.
101. W. I. McGee, Farley, Iowa, Planters Hotel.
102. A. Lakes, Denver, Col.
103. Thomas Belt, London, England, Lindell Hotel.
104. S. M. Breckenridge, St. Louis, Mo., ——
105. T. S. Parvin, Iowa City, Iowa, Lindell Hotel.
106. S. Marsden, St. Louis, Mo., 907 Clay st.
107. John J. R. Patrick, Belleville, Ill. ——
108. Ernest P. Olshausen, St. Louis, Mo., 5th & Market sts.
109. Henry Talbot, Jr., Waterloo, Ill., Lindell Hotel.
110. R. Giebermann, St. Louis, Mo., ——
111. S R. Crumbaugh, Elkton, Ky., Lindell Hotel.
112. G. Hambach, St. Louis, 2802 1-2 Cass Ave.
113. Edward H. Twining, St. Louis, 3036 S. 8th st.
114. Albert Todd, St. Louis, Hotel Belvedere.
115. J. W. Powell, Washington, D. C., Lindell Hotel.
116. G. W. Hubbard, Nashville, Tenn., Planters House.

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117. Geo. M. Houston, Harrisonville, Mo., Lindell Hotel.
118. H. W. Blair, Lexington Va., Lindell Hotel.
119. Thomas Meehan, Philadelphia, Pa., Lindell Hotel.
120. Isaac C. Martindale, Camden, N. J., ——
121. G. W. Hicks, Nashville, Tenn., Lindell Hotel.
122. E. B. Elliott, Washington, D. C. " "

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LIST OF MEMBERS

ELECTED AT THE ST LOUIS MEETING,

August 21st, 1878.

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1. Mrs. Felicia G. Porter, Nashville, Tenn.
2. Franklin Platt, Philadelphia, Pa.
3. Alfred Hume Lusk, Nashville, Tenn.
4. Wright W. Southgate, Nashville, Tenn.
5. Arthur E. Oehler, Highland, Ills.
6. Wm. Battle Phillips, Chapel Hill, N. C.
7. H. N. Martin, Johns Hopkins University, Baltimore, Md.
8. Geo. L. Parmele, Hartford, Conn.
9. Edw. Miner Gallaudet, Washington, D. C.
10 Wm. A. Pike, Orono, Maine.
11. Wm. I. Marshall, Fitchburg, Mass.
12. F. H. Pinkerton, Oakland, California.
13. Joseph C. Gordon, Washington, D. C.
14. Horace Brown, Salem, Mass.
15. Reuben Haines, Germantown, Pa.
16. James B. Mackintosh, M. E., School of Mines, New York.
17. Charles Otis Whitman, Boston, Mass.
18 S. H. Trowbridge, Glasgow, Mo.
19. Wm. F. Morgan, New York.
20. Thomas A. Edison, Menlo Park, N. J
21. G C Broadhead, Pleasant Hill, Mo.
22. Julius W. Shaub, St. Louis, Mo.
23. Albert G. R. Theobald, India.
24. Charles A. Smith, St. Louis, Mo
25. Miss Emily A. Smith, Peoria, Ill
26. Thomas Belt, London, England.
27. Edmund B. Reed, London, Canada.
28. Romyn Hitchcock, New York City.
29. John L. Wall, New York City.
30. Samuel Mills Tracy, Columbia, Mo.
31. John J. R. Patrick, Belleville, Ills.

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AUGUST 22nd.

32. G S Walker, St. Louis, Mo.
33. J. H. Terry, " "
34. G. W. Letterman, Allenton, Mo.
35. A. Schaffranck, St. Charles, Mo
36. Charles J. Barnes, Chicago, Ills.
37. Enno Sander, St Louis, Mo.
38. Sam'l Marsden, " "
39. Asa Scott Tiffany, Davenport, Iowa
40. Alice W Palmer, Mass. Inst. Technology, Boston, Mass.
41. Frank J. Dondran, St. Louis, Mo.
42. Jos T Tatum, " "
43. A. A. Mellier, " "
44. Rev. Dr Sonneschein, " "
45. Albert Todd, " "
46. Miss Phoebe Couzins, St. Louis, Mo.
47. Ferdinand W. Sennewald, " "
48. Giles F. Filley, " "
49. S. A. Forbes, Normal, Ills.
50. L. A. Fuller, Springfield, Ills.
51. Wm. McAdams, Jr., Otterville, Jersey Co., Ills.
52. C. T. Rand, Washington, D. C.
53. David Peck Todd, " "
54. Richard Hayes, St. Louis, Mo.
55. Rudolph Giebermann, St. Louis, Mo.
56. W. J. McGee, Farley, Iowa.
57. S. M. Breckinridge, St. Louis, Mo.
58. Geo. O. Holbrooke, Hartford, Conn.
59. Marcus Benjamin, New York City.
60. N. Matsui, School of Mines, N. Y.
61. Wm. Rupp, New York.
62. Michael T. Singleton, Atlanta, Ga.
63. Charles A. Locke, " "
64. Alban J. Conant, St. Louis, Mo.
65. Regis Chauvenet, " "
66. Abram Litton, " "
67. Wm. Torrey Harris, " "

AUGUST, 23rd.

68. Leander Stone, Chicago, Ill.
69. Henry Talbot, Waterloo, Ill.

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70. Charles Matlack, Germanton, Pa.
71. Daniel Mooar, Keokuk, Iowa.
72. Jonathan B. Moulton, St. Louis.
73. Edw. H. Twining, St. Louis, Mo.
74. Frederic A. Cairns, School of Mines, New York.
75. Charles Spinzig, St. Louis, Mo.
76. Wayman Crow, St. Louis, Mo.
77. John Orm, Paducah, Ky.,
78. A. Butters, Carlinville, Ill.
79. Ernest P. Olshausen, St. Louis, Mo.
80. H. A. Rowland, Johns Hopkins University, Baltimore, Md.
81. Theodore S. Case, Kansas City, Mo.
82. R. D. Shannon, Jefferson City, Mo.
83. Thomas Vickers, Cincinnati, Ohio.
84. J. C. Minor, Cincinnati, Ohio.
85. S. R. Crumbaugh, Lehigh University, Bethlehem, Pa.

August 26th, 1878.

86. H. Y. Castner, 43 Pine st., New York.
87. Miss V. K. Bowers, Grand Eddy, Mo.
88. W. W. Waugh, Farribault, Minn.
89. J. Duncan Putnam, Davenport, Iowa.
90. Robert Benecke, St. Louis.
91. M. Campbell, Nashville, Tenn.
92. Gen. J. S. Marmaduke, St. Louis.
93. Maurice Schuster, St. Louis.
94. J. H. Simpson, St Louis.
95 J. B. Johnson, St. Louis.
96 Samuel Treat, St Louis.
97. Thomas Richeson, St. Louis.
98. Theodore Meier, St Louis.
99 Jas. B. Eads, St Louis.
100. Henry Hitchcock, St. Louis.
101 Thomas Allen, St Louis.
102. Chas. Speck, St Louis.
103. Overstolz, St. Louis.
104. W G. Eliot, St Louis.
105. Chauncey I. Filley, St Louis.
106. R P. Studley, St Louis.
107. F. A. Churchill, St. Louis
108. J. Green, St. Louis.

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109. E C. Simmons, St. Louis.
110 B. M Chambers, St. Louis.
111. John A. Dillon, St Louis.
112. R C. Clowry, St. Louis
113. C. W. Bradley, St Louis
114. John J. Mitchell, St Louis
115. C C. Cobb, St. Louis
116. A. W. Soper, St. Louis.
117. Carl Daenzer, St. Louis.
118. Geo. H. Heafford, St. Louis.
119. Jas. F. Howe, St. Louis.
120. R. P, Tansey, St. Louis.
121. Wm Hyde, St. Louis.
122. Horatio M. Jones, St. Louis.
123. D. M, Houser, St Louis
124. Thomas Egleston, New York.
125. D V. Dean, St. Louis.
126. Nathaniel Holmes, St. Louis.
127. J. W. Turner, St. Louis.
128. M. Dwight Collier, St. Louis.
129. John T. Davis, St Louis.
130. Silas Bent, St. Louis
131. Moses Fraley, St Louis
132. Chas. Parson, St. Louis.
133. J. C. Learned, St Louis.
134. Henry Shaw, St. Louis.
135. Dr. Leet, St Louis.
136. Edwin Harrison, St Louis.
137. Wm Duncan, St Louis.
138. John E. Simpson, St. Louis.
139. Wm. Taussig, St Louis.
140 Isidor Busch, St. Louis
141. C P. Johnson, St Louis
142. John A Scudder, St Louis
143 John Snyder, St. Louis.
144. D. K Ferguson, St Louis.
145. Wm. P Shryock, St Louis
146 E T. Allen, St Louis.
147. Eben Richards, St Louis.
148 E. A. Hitchcock, St Louis

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149. Adolph Busch, St. Louis.
150. Wm. M. Senter, St. Louis.
151. August Frank, St Louis.
152. Wm J. Lemp, St Louis.
153 W C Glasgow, St. Louis.
154. John N. Dyer, St Louis.
155. Dr. M. Schuyler, St Louis
156 H. M Jones, St. Louis
157. M Rosenheim, St. Louis
158. D. R Garrison, St. Louis.
159. S. M Dodd, St Louis.
160. Judge Lindley, St Louis
161. J. Nelson Dale, Jr , Paterson, N. J.
162. Enos Clark, St Louis
163. A. Krieckhaus, St Louis.
164. George Bain, St. Louis.
165. S. H Laflin, St. Louis.
166 E O. Stanard, St Louis
167. Thomas E Tutt, St Louis.
168. Chas. Barstow, St Louis.
169. George Washington Hides, Nashville, Tenn.
170. Jas. O Broadhead, St Louis.
171. J. K Cummings, St. Louis.
172. Wm Glasgow, Jr., St Louis.
173. Erastus Wells, St. Louis.
174 John B. Maude, St. Louis.
175 Julius S Walsh, St Louis.
176. Dr. Niccolls, St. Louis
177. Nathan Cole, St. Louis.
178. M. J Lippmann, St Louis.
179. R M. Scruggs, St Louis
180. E. S Lemoine, St Louis.
181. Geo. D Hall, St Louis.
182 Jas. E. Yeatman, St. Louis.
183. J. K Shepley, St Louis.
184. C. W Stevens, St Louis
185 Gerard B. Allen, St. Louis
186 Thomas J Wilmot, Rye Beach, N. H.
187. E. Preetorius, St Louis.
188. A E Levison, St Louis

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189. S. Fleming, Burr Oak, Mich.
190. Jno. C. Dalton, New York City
191. Mrs. Mary Treat, Vineland, N. J.
192. Miss Mary E. Murtfeldt, Kirkwood, Mo.

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FELLOWS ELECTED.

AUGUST 26.

Prof. Stephen Alexander, Princeton, N. J.

Dr. Emil Bessels, Smithsonian Inst., Washington, D. C.

Prof. Lewis Boss, Director Dudley Observatory, Albany, N. Y.

Wm. M. Canby, Wilmington, Del.

Dr. Thos. A. Edison, Menlo Park,. N. J.

Prof. Chas. F. Hastings, Johns Hopkins University, Baltimore, Md.

Dr. George J. Engelmann, St. Louis

Prof. Joseph Ficklin, Columbia, Mo.

Prof. Wm. Harkness, U. S. Observatory, Washington, D. C.

Clarence King. U. S. Geolog. Expl. 40th Parallel, 23 Fifth Ave., New York.

Prof. Benj. F. Mudge, Manhattan, Kansas.

Mrs. Ellen S. Richards, Mass. Inst. Technology, Boston, Mass.

Prof. John K. Rees, Washington University, St. Louis, Mo.

Miss Emily A. Smith, State Entomologist, Peoria, Ill.

Prof. J. E. Willet, Mercer University, Macon, Ga.

Dr. Theodore G. Wormley, University of Penn., Phila., Penn.

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SECTION A.

MATHEMATICS, ASTRONOMY, PHYSICS, CHEMISTRY AND MINERALOGY.

Vice President.

Prof. Robert H. Thurston, of Hoboken.

Secretary.

Prof. Francis E. Nipher, of St. Louis.

Sectional Committee.

Dr. R. H. Ward, of Troy.
Prof. Simon Newcomb, of Washington.
Dr. H. C. Bolton, of Hartford
Prof. F. W. Clarke, of Cincinnati, *ex officio.*
Prof. A. P. S. Stuart, of Lincoln, *ex officio.*

Nominating Committee.

Prof. J. K. Rees, of St. Louis.
E. Hasbrouck, New Brunswick.
Prof. G. F. Barker, of Philadelphia.
Prof. A. H. Elliott, of New York.

Titles of Papers for Tuesday in Section A.

(1) 30. Rain Determinations on Roofs. (20 m.).. Francis E. Nipher.
(2) 76. On the Possibility of observing the Solar Corona without the aid of an eclipse. (10 m.) Ormond Stone.
(3) 85. On a modified form of Telephone intended for a Sensitive Electroscope for the Detection of Feeble Currents. (5 m.).....P. H. Van der Weyde.
(4) 55. A Peculiar Case of Fracture of Tool Steel. (10 m.)..... Wm. Kent.
(5) 98. Internal Revenue Adjustment of the Carlisle Tables. (15 m.)..... E. B. Elliott.
(6) 99. International Coinage.–its progress.(20 m.) E. B. Elliott.
(7) 68. The Rainfall of the Arid Region of the United States. (25 m.)..... J. W. Powell.

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PERMANENT SUBSECTION C.

CHEMISTRY.

Chairman.

Prof. F. W. Clarke, of Cincinnati.

Secretary.

Prof. A. P. S. Stuart, of Lincoln.

Adjourned to meet with Section A.

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PERMANENT SUBSECTION D.

MICROSCOPY.

Chairman.

Dr. G. S. Blackie, of Nashville. *

Secretary.

Dr. Geo. J. Engelmann.

Titles of Papers Entered for Tuesday.

(1) 89. On Recent Progress in Micrometry. (5 m.) R. H. Ward.
(2) 90. On a Standard Inch and a Standard Centimeter. (15 m.)..... Wm. A. Rogers.

* Dr. R. H. Ward will preside until the arrival of Dr. Blackie.

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SECTION B.

GEOLOGY, ZOOLOGY, BOTANY AND ANTHROPOLOGY.

Vice President.

Prof. A. R. Grote, of Buffalo.

Secretary.

Prof. George Little, Atlanta.

Sectional Committee.

Prof. James M. Safford, of Nashville.

Hon. Lewis H. Morgan, of Rochester.

Prof. J. A Lintner, of Albany.

Nominating Committee.

Prof. G. C. Broadhead, of Pleasant Hill.

Rev. Dr. E A. Dalrymple, of Baltimore.

Prof. O. T. Mason, of Washington.

Mr. Ad. F. Bandelier, of Highland.

Titles of Papers Entered for Tuesday in Section B.

(1) 56. On the Consensus in Animal and Vegetal Life. (15 m.)..... Lester F. Ward.

(2) 59. Notice of a recent discovery of Gold in the Unaka Mountains of Tennessee. (15 m.).... Jas. M. Safford.

(3) 60. Notice of Certain Sulphide Springs in Tennessee. (15 m.)..... Jas. M. Safford.

(4) 65. An Atlas of North American Antiquities. (10 m.)..... O. T. Mason.

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(5) 66. North American Indian Synonymy. (10 m.) O. T. Mason.
(6) 70. On *Ægeria tipuliformis* Lin. (3 m.)..... Geo. H. Perkins.
(7) 71. Osteology of *Scuropterus volucella*. (20 m.) Geo. H. Perkins.
(8) 11. A New Source of Wealth to the United States, (15 m.)..... Chas. V. Riley.
(9) 47. Dinosaurian Reptiles from the Jurassic of the Rocky Mountains, (15 m.)..... O. C. Marsh.
(10) 48. Ancient Pottery from Chiriqui, Central America, (10 m.)..... O. C. Marsh.
(11) 75. On some Characteristics of the vegetation of Iowa, (15 m.)..... J. C. Arthur.
(12) 82. On certain difficulties met with in using the Cat's Brain as a type of the brains of Mammals, (12 m.)..... Burt G. Wilder.
(13) 83. On the anatomical peculiarities by which Moundbuilder's Crania may be distinguished from those of the Modern Indian. (5 m.).. W. J. McGee.
(14) 86. Exhibition of Fossils showing the effects of the Geodizing process, (5 m.)..... A. H. Worthen.
(15) 92. Exhibition of Prehistoric relics from Missouri, (15 m.)..... A. J. Conant.
(16) 93- An account of an exploration of a Walled Town of the Moundbuilders of the Cumberland Valley, (15 m.)..... F. W. Putnam.
(17) 95. On the Compass Plants, (10 m.)..... George Engelmann.
(18) 96. On the Discovery of a Human Skull in the Drift near Denver, Colorado. (20 m.)..... Thomas Belt.
(19) 97. Discovery of Atlantosaurus and other Dinosaurs in the Rocky Mountains of Colorado, (15 m.)..... A. Lakes.
(20) 100. Biological Notes on the Gall.making Pemphigini, (10 m.)..... C. V. Riley.
(21) 101. The Alleged Volcano at Bald Mt., North Carolina. (10 m.)..... F. W. Clarke.
(22) 103. The Gold Region of Georgia. (15 m.)... Geo. Little.

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COMMITTEE ON MEMBERSHIP.

J S. Newberry of New York.
Simon Newcomb of Washington.
William B Rogers of Boston.
James D Dana of New Haven.
J. Lawrence Smith of Louisville.

The President, General and Permanent Secretaries of the Association, *ex officio*.

Additional names entered on Register:

AUGUST 27.

129 Wm Kent, Pittsburgh, Pa , 2321 Chesnut st
130. Wm Bross, Chicago, Ill , Lindell Hotel

Members elected August 27.

193. J A Sullivan, Washington, D C.
194. John H. Frick, Warrenton, Mo
195 Oliver V Jones, Lebanon, Ill.
196 H. C Fletcher, St Louis
197. F F. Hilder, St. Louis.
198 T W. Heman, St Louis.
199. C L Constant, New York.
200. F R Hutton, New York
201. L P Grataeap, New York.
202. H A Mott, Jr , New York.
203 H C Bowen, New York.
204. S. Pollak, St Louis
205. Augustus Bernays, St. Louis.

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Officers Elected for the Meeting of 1879, to be held at *Saratoga*, last Wednesday in August.

President.

GEO. F. BARKER, of Philadelphia.

Vice President Section A.

Prof. S P. LANGLEY, of Alleghany.

Vice President Section B.

Major J W. POWELL, of Washington.

Chairman of Subsection of Chemistry.

Prof IRA REMSEN, of Baltimore.

Chairman of Subsection of Microscopy.

Prof EDW. W. MORLEY, of Hudson, O.

Permanent Secretary.

F. W. PUTNAM, of Cambridge.

General Secretary.

Dr GEO. LITTLE, of Atlanta

Secretary of Section A.

Prof. JOHN K REES, of St. Louis.

Secretary of Section B.

Prof. A. G WETHERBY, of Cincinnati.

Treasurer.

WM S VAUX, of Philadelphia

Auditing Committee.

Dr. HENRY WHEATLAND, of Salem.
THOMAS MEEHAN, of Philadelphia.

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Addition to Members Elected, August 27.

206. **Charles E. Briggs**, St. Louis.
207. **John H. Terry**, St. Louis.
208. **Wm. M. McPheeters**, St. Louis.
209. **Henry W. Eliot**, St. Louis.
210. **B. Gratz Brown**, St. Louis.
211. **Charles Nagel**, St. Louis.
212. **Bernard Singer**, St. Louis.
213. **Dr. Kolbenheyer**, St. Louis.
214. **Sam'l Cupples**, St. Louis.
215. **Felix Coste**, St. Louis.
216. **H. H. Morgan**, St. Louis.

ERRATA.

No. 41 should read: Frank J. Donovan.
No. 103 should read: His Honor Mayor Overstolz, St. Louis.
No. 156 should read, E. D. Meyer, St. Louis, Mo.

Addition to Members registered.

131. **Enos Clarke**, St. Louis.
132. **Jno. H. Frick**, Warrenton, Mo.
133. **E. S. Lemoine**, St. Louis.

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To the American Association for the Advancement of Science:

As member of the Committee to memorialize Congress in regard to Meteorological Researches, I beg leave to submit the following:

I. The "Report of the Committee" issued by Prof. Loomis can in no way be considered as a Report of the Committee. In my first reply to Prof. Loomis, dated March 22d, 1878, I said, "I will print for "the use of the Committee any brief remarks you or any other mem-"ber will suggest and draw up. These copies may be sent to each "member for endorsement or rejection. You, as chairman, can thus "draw up a paper endorsed by a majority, if not by all of us."

Such a plan comes as near as possible to actual conference, and would most likely have led to a real Report of the Committee. Nothing of the kind was done; the members were practically not consulted at all, but an epistle highly laudatory of the Military Weather Service was submitted for signature, which signature I refused to give. (April 8th, 1878.)

Again, May 17th, 1879, I received eight pages of printed matter from Prof. Loomis,--a document torn out of a cover, or from some continuation. By letter I was requested to state what "alterations" of the draft, if any, I desired to make. I considered this as not a serious attempt at obtaining the views of the *members* of the Committee, who represent the Association —but simply an endeavor to get the signature of the members of the Committee to the expression of personal admiration which the chairman feels for the Signal Service.

From these facts it will be seen that the statement on page 11 of the so-called Report is erroneous, so far as it implies a neglect of duty on my part.

II. On page 13 the chairman claims to print my letter of April 8th, 1878. Also that claim is not in accordance with fact, for the chairman *omits* the entire and important concluding paragraph. Below I give the letter in full; the parts omitted by the chairman in *italics*.

IOWA CITY, April 8, 1878.

Prof. E. LOOMIS, New Haven:

Dear Sir: I regret exceedingly to be compelled to return the draft of your memorial without being able to append my signature to the same. I most heartily approve of that portion relating to *publication;* but I cannot endorse the important part of your draft relating to organization.

It seems that you take it for granted that the present organization is to be maintained, and merely to be extended; already exceedingly costly, it is to become much more so: already now concentrating nearly all meteorological work at Washington, the scientific centralization would be made permanent and more complete; finally, the military would retain control of one of the most important branches of scientific work in this country. I am deeply convinced, from a close study, that this would prove ruinously expensive financially, and work greatly to the disadvantage of the scientific interests of the country.

It appears to me that the Service, before being permanently established, should receive the benefit of the experience of others; that a line of demarkation should be drawn between telegraphic and climatological work, somewhat corresponding to the distinction there is in regard to national and more local, State, affairs.

The amount now devoted by the national government to the meteorological service of the army appears to be abundantly large

[redacted]

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for all legitimate national work of that kind; if large tracts of territory are almost destitute of stations, others are too densly crowded for purposes of obtaining "indications."

*Finally, I could not endorse the exceeding high opinion expressed in regard to these predictions.** *I have very closely watched them for years. A large part of the apparently high per cent. of verifications is undoubtedly due to great liberality in the extent of territory covered by any one prediction, and the very comprehensive form of language selected for the expression of the prediction.*

If you can draw up a memorial not fixing the organization, but leaving the same an open question for scientific and congressional inquiry, I shall gladly endorse the same as much as the recommendation in regard to printing. *Very truly yours,*

GUSTAVUS HINRICHS.

The fact that the Committee is not able to report as such, is *not* due to neglect of *members*, as intimated on page 11 of the self-styled Report, but rather to the fact that the chairman evidently merely desired the Committee to endorse the military power which now controls a large field of scientific work in this country.

Objections to the Military Weather Service.

I. Its military organization. A weather service is necessarily scientific; its practical efficiency depends on the preceding labors of scientific investigators; its permanent success is only possible by the fostering of the scientific spirit.

Vast power, due to lavish national appropriations and facilities for printing —aggregating now probably a million dollars per annum—may accomplish much, pile up big maps, issue enormous volumes, flood the country with indications and farmers' bulletins; but when it shall have crushed out independent work, as it is now doing, depending for its observers on recruiting offices, and for its leaders on officers of the regular army on duty, it will in due season be recognized by the people as it now is by those scientific men who have given special attention to the same: a costly military obstacle in the way of an efficient scientific Weather Service.

The Signal Service proper, as a legitimate branch of the army, is not referred to in the above criticism; but only the perversion of the same, which many army officers regret having taken place.

The time and attention given to signalling, telegraphing, building of telegraph lines, etc., is a loss to Weather Service proper.

Finally, the breaking out of any war involving this country will stop or profoundly disturb the Weather Service now controlled by the army, for then the military duties will as promptly be attended to as the Weather Service was taken up when the last war had come to a close.

II. In comparison to the above, minor criticisms are of little consequence. Thus the crowding of stations, the telegraphing of all observations to Washington, is simply a military waste of means. For only the great motions of the atmosphere *are* determined as a matter of fact, only these are used in the making of forecasts—and less than one half the number of stations east of the hundredth meridian would abundantly suffice. Those who think I err, need only, like me, watch the operations and results. In fact, a careful observation of the barometer and wind-vane gives locally better results than the military Weather Service has so far exhibited.

These telegraph stations being too far apart for any reliable climatological results, examinations of the so-called Signal Service observations have led to unwarranted generalizations— several of the results of Prof. Loomis† are of this character.

III. The value of the Probabilities or Indications is as much overestimated by the general public, not familiar with the laws of meteorology (established long before the army took possession of them), as is the cost of these probabilities, needlessly increased by the military service.

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* The so-called "probabilities" or "indications" given by the military authorities.

†It seems that Prof. Loomis is the only American scientist who can obtain any

Used to absolute control, special pains are taken to make everything appear as due to the military service; and the general public, always fond of a positive statement, especially if occult and vague, admires in the military service a science which that service never contributed to obtain.

IV. Minutely exacting in authority, the military Weather Service is brutally unjust toward every scientific work independent of the army. Probably every working meteorologist in this country can confirm this statement, for which examples can be promptly furnished by me. The co-operation of scientists, so often referred to in the official reports of that service, usually comes to an abrupt termination on account of the military spirit at Washington; and as the service has not yet conformed to any important international regulation, its own co-operation appears not to be furnished.

SUGGESTIONS FOR ORGANIZATION.

This country is a continent. In organizing its Weather Service false parallels should be avoided. The United States equals all Europe in extent. We can never obtain as thorough a knowledge of our climate, as has been acquired in Europe, unless we cease comparing this continent to any single country in Europe. The *State* here most nearly corresponds to the country there; and the *United States* correspond to the whole of Europe.

Now, have we anywhere done as much for meteorological organization as has been done in Europe? Is not the present organization blinding us to our own defects? Is it not time that the true condition of things should be understood?

Where is in the United States a territory which, equal in extent to Bavaria and Badèn, has as complete a meteorological organization? These States have efficient State Services, recently more fully developed, in addition to the general telegraphic service of the German Empire, which amiably co-operates with the services of neighboring countries. It is true, we do grind out probabilites faster, and at a much higher price a word; but they are not any better (except for our natural position on the eastern part of the continent) and we learn infinitely less in regard to our climate, *i. e.*, the legitimate source of the probabilities of the future.

In broad outlines, I would suggest the following Organization:

I. *Scientific*, therefore not military.

II. *Comprehensive* in the whole, and *accurate* in detail; therefore a *National Service* for general work, comprising the entire country, and a *State Service* for each State.

III. Science is free, truth compelling assent; persons are limited, each especially efficient in certain directions only. Accordingly the State Services should not be subordinated to the National Service, but the superintendents or directors should *agree* by conference on matters which require agreement, but work free and independent in everything else. In this manner great progress is possible, for these are the conditions of scientific life. The example of Europe proves the progressive value hereof.

There is no need for a single central weather bureau at Washington; the only result accomplished in forcing such a thing upon the country would be in making the meteorology of the United States small enough to be managed at such an office.

As to the precise division of work: the great motions of the atmosphere should be examined by the national bureau, telegraphs should

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scientific civilians. The general probabilities would be specialized in those States possessing a *State Service.*

But I would not assume to specialize in this matter here. Let those scientific men of our Association who have given special attention to these subjects consult and correspond, and we shall accomplish something. Can we afford, as a nation, to ignore the physical science in our colleges and universities, and have a few army sergeants and officers control the millions paid by this nation for *present* results not only but also for future probabilities? Where are the meteorological observatories in this country that can be compared to those now densely dotting the map of Europe? How long shall the army Weather Service prevent the developement of meteorological observatories in the United States? When shall our students of science cease to be debarred from devoting themselves to practical meteorology, as they do in Europe?

If the present system is continued much longer, the sciencc of meteorology will have no representatives in this country. Why not as well give the army the exclusive control of all science in this Republic, as we have done so far in meteorology? Let the army also take charge of all astronomical observatories, all cabinets of natural science, all chemical and physical laboratories; let the army also carry on all geological surveys, all mineralogical explorations, all geodetic surveys —and the American Association for the Advancement of Science will, at its meetings, be able to devote all its time to social pleasure, and American science will be no more. The recent action of Congress in regard to surveys and explorations must at an early date be followed up by a similar act in regard to Weather Service.

History has demonstrated that no army can be trusted as custodian of civil liberty; this free Republic has already abundantly proved to its own scientists, that the army cannot safely be made the ruler of scientific work.

In the science of meteorology we are not leading, as certain parties proclaim, but we are falling behind; militarism has the national money and the power, and scientists are not wanted—only sergeants and regular officirs!

By the peculiar efforts of the chairman, the majority of the Committee has been prevented from proper representation before the Association. But it will be seen, from the letters even as they are printed by the chairman, that the majority of the Committee agree in this: that *the United States need a really scientific National Weather Bureau, absolutely independent of the army.*

May the Association adopt this much of the majority report and appoint a committee of scientists, free from army connection, to deliberate and report on further details.

The pressure of work required for our own State Weather Service prevents me from attendance at the meeting. I send a few copies of our Iowa Weather Report for April 1878, giving a special description of a storm.

GUSTAVUS HINRICHS.

Iowa City, Iowa, August 23, 1879.

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Mr. A. Agassiz.
Mr. Lucien Carr.
Prof. William Cook.
Prof. J. P. Cooke.
Pres. C. W. Eliot, *Chairman.*
Prof. H. L. Eustis.
Dr. W. G. Farlow.
Prof. Wolcott Gibbs.
Dr. G. L. Goodale, *Secretary.*
Prof. Asa Gray.
Dr. H. A. Hagen.
Prof. E. N. Horsford.
Prof. Joseph Lovering.
Prof. Benjamin Peirce.
Prof. E. C. Pickering.
Mr. L. F. Pourtales.
Mr. F. W. Putnam.
Prof. W. A. Rogers.
Mr. S. H. Scudder.
Mr. Arthur Searle.
Prof. N. S. Shaler.
Prof. John Trowbridge.
Mr. Sereno Watson.
Prof. C. J. White.
Prof. J. D. Whitney.
Mr. Justin Winsor.
Dr. Morrill Wyman.

Salem Committee.

Judge Endicott.
Dr. Henry Wheatland.
[To be filled in Salem.]

Executive Committee.

The General Chairman, Local Secretaries and Treasurer, with the Chairmen and Secretaries of the several committees, and such other persons as they may select.

Mr. Samuel H. Scudder, } *Secretaries.*
Mr. Edward Burgess, }

Mr. Charles W. Scudder, *Treasurer.*

[The Chairmen and Secretaries of the several Committees are provisionally designated for organization only. Each Committee will choose its own officers.]

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Committee on Mails, Express, and Telegraph.

Prof. A. Graham Bell.
Dr. Clarence J. Blake.
Mr. F. C. Bowditch, *Secretary.*
Mr. W. W. Clapp.
Prof. J. R. Cross, *Chairman.*
Mr. William Forbes.
Mr. D. A. Goddard.
Mr. E. L. Godkin.
Mr. E. B. Haskell.
Col. T. W. Higginson.
Mr. W. A. Hovey.
Mr. Gardiner G. Hubbard.
Mr. Patrick T. Jackson.
Mr. R. M. Pulsifer.
Mr. Waldo O. Ross.
Mr. M. E. Wadsworth.
Dr. G. F. Waters.
Mr. R. Worthington.

Committee on Excursions.

Mr. Edward Atkinson, *Chairman.*
Mr. Ernest W. Bowditch.
Dr. Henry P. Bowditch, *Secretary.*
Mr. C. H. Dalton.
Mr. W. M. Davis.
Dr. John Dean.
Dr. Thomas Dwight.
Dr. R. T. Edes.
Mr. J. Rayner Edmands.
Mr. R. B. Forbes.
Mr. James B. Francis.
Dr. Samuel A. Green.
Prof. H. W. Haynes.
Prof. J. B. Henck.
Mr. H. F. Mills.
Prof. Henry Mitchell.
Prof. William H. Niles.
Mr. F. W. Palfrey.
Mr. S. R. Payson.
Mr. E. S. Philbrick.
Mr. J. D. Philbrick.
Mr. H. S. Russell.
Mr. C. S. Storrow.
Dr. J. C. Warren.
Prof. H. L. Whiting.
Dr. Edward Wigglesworth.

Cambridge Committee.

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DAILY PROGRAMME

OF THE

TWENTY-EIGHTH MEETING

OF THE

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

Commencing Wednesday, August 27, 1879,

AT

SARATOGA SPRINGS, N. Y.

SARATOGA, N. Y.,
PUBLISHED BY THE LOCAL COMMITTEE.
PRINTED BY PAUL & RITCHIE.
1879.

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ELECTED FOR THE

SARATOGA MEETING.

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STANDING COMMITTEE.

Past Presidents—Benjamin Peirce, of Cambridge; James D. Dana, of New Haven; James Hall, of Albany; Stephen Alexander, of Princeton; Isaac Lea, of Philadelphia; F. A. P. Barnard, of New York; J. S. Newberry, of New York; B. A. Gould, of Boston; T. Sterry Hunt, of Montreal; Asa Gray, of Cambridge; J. Lawrence Smith, of Louisville; Joseph Lovering, of Cambridge; John L. LeConte, of Philadelphia; J. E. Hilgard, of Washington; William B. Rogers, of Boston; Simon Newcomb, of Washington.

The President, Vice Presidents, Secretaries and Treasurer of the Meeting.

Officers of the Preceding Meeting.—O. C. Marsh, of New Haven; R. H. Thurston, of Hoboken; A. R. Grote, of Buffalo; H. C Bolton, of Hartford; F. E Nipher, of St. Louis.

From the Association at large.—Six Fellows to be elected on the first day of the meeting.

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SPECIAL COMMITTEES.

A. COMMITTEES CONTINUED FROM FORMER MEETINGS.

1 *Permanent Committee on Weights, Measures and Coinage.*

F. A. P. Barnard, of New York,
Wolcott Gibbs, of Cambridge,
B. A. Gould, of Boston,
J. E. Hilgard, of Washington,
John LeConte, of Oakland.
H. A. Newton, of New Haven,
Benjamin Peirce, of Cambridge,
William B. Rogers, of Boston,
J. Lawrence Smith, of Louisville,
E. B. Elliott, of Washington.

2. *Committees to Memorialize the Legislature of New York for a New Survey of Niagara Falls.*

F. A. P. Barnard, of New York,
Charles P. Daly, of New York,
James Hall, of Albany,
G. W. Holley, of Niagara Falls.

3. *Committee to Memorialize Congress and State Legislatures regarding the Cultivation of Timber, and the Preservation of Forests.*

F. B. Hough, of Lowville,
Asa Gray, of Cambridge,
G. B. Emerson, of Boston,
J. D. Whitney, of Cambridge,
J. S. Newberry, of Cleveland,
L. H. Morgan, of Rochester,
Chas. Whittlesey, of Cleveland,
W. H. Brewer, of New Haven,
E. W. Hilgard, of Berkley.

4. *Committee on International Congress of Geologists.*

William B. Rogers, of Boston; James Hall, of Albany; J. W. Dawson, of Montreal; J. S. Newberry, of New York; T. Sterry Hunt, of Montreal; C. H. Hitchcock, of Hanover; Raphael Pumpelly, of Owego; J. P. Lesley, of Philadelphia; in connection with Dr. Otto Torrell, of Stockholm; Dr. E. H. von Baumhauer, of Harlem; Prof. T. H Huxley, of London; Prof. A. C. Ramsay, of London; and the Presidents of the Geological Societies of France, London; Edinburgh, Dublin, Berlin, Belgium, Italy, Spain, Portugal, and the Imperial Geological Institute of Vienna.

5. *Committee to Memorialize Congress in relation to the Yellowstone National Park.*

T. B. Comstock, of Ithaca; O. C. Marsh, of New Haven; Geo. M. Wheeler, of Washington; J. W. Powell, of Washington; Clarence King, of New York.

6. *Committee on the Introduction of Science into the Schools.*

J. D. Runkle, of Boston; A. R. Grote, of Buffalo; N. S. Shaler, of Cambridge; J. W. Powell, of Washington; N. T. Lupton, of Nashville; E. W Hilgard, of Berkeley; George Little, of Atlanta.

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7. *Committee on the Relation of Science to the Industrial Arts.*

R. H. Thurston, of Hoboken. J. M. Safford, of Nashville; J. T. Wilder, of Chatanooga; O. Chanute, of New York; J. W. Osborne, of Washington, D. C.

8. *Committee to Memorialize Congress in relation to Meteorological Researches.*

Elias Loomis, of New Haven; N. S. Shaler, of Cambridge; G. Hinrichs, of Iowa City; J. B. Killebrew, of Nashville; J. W. Osborne, of Washington.

B. NEW COMMITTEES.

1. *Committee to obtain Permanent Funds for the Association, and to advise with Treasurer and Permanent Secretary on financial matters.*

Wm. B. Rogers, of Boston; J. Lawrence Smith, of Louisville; Lewis H. Morgan, of Rochester; Alexander Agassiz, of Cambridge; Robert H. Thurston, of Hoboken.

2. *Committee on Membership.*

J. S. Newberry, of New York; Simon Newcomb, of Washington; William B. Rogers. of Boston; J. D. Dana, of New Haven; J. Lawrence Smith, of Louisville, with the General and Permanent Secretaries.

3. *Committee to prepare a Eulogy on the late Joseph Henry.*

Simon Newcomb, of Washington; S. F. Baird, of Washington; A. M. Mayer, of Hoboken.

4. *Committee to Audit the Accounts of the Permanent Secretary and Treasurer.*

Henry Wheatland, of Salem; Thos. Meehan, of Philadelphia.

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LOCAL COMMITTEE

OF THE

SARATOGA MEETING.

OFFICERS.

Dr. R. C. McEwen, *Chairman.*
Dr. J. L. Perry, *Treasurer.*
Prof. H. A. Wilson, *Secretary.*
Lt. Commander A. R. McNair, } *Corresponding Secretaries.*
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LOCAL COMMITTEE.

On Finance.

W. H. Eustis, Esq., *Chairman;* Dr. C. H. Payn, A. W. Shepherd, George L. Ames, John H. Walbridge, James R. Chapman, C. H. Tefft, Jr., P. Porter Wiggins, J. Willard Lester.

On Excursions.

Lt. Commander A. R. McNair, *Chairman;* Prof. H. B. Nason, Dr. R. H. Ward, Hon. N. B. Sylvester, Wm. Hay Bockes, Col. LeGrand B. Cannon, J. W. Ehninger, Verplanck Colvin, Cyrus Butler, James T. Gardner, Cornelius Sheehan, L. G. Olmstead, LL.D.

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On Printing.

C. C. Lester, *Chairman;* E. R. Stevens, T. Chester Walbridge, C. H. Sturges, C. L. Pond.

On Rooms.

Hon. Joseph Baucus, *Chairman;* Thomas Noxon, L. H. Cramer.

On Mails, Telegraph and Express.

Capt. B. F. Judson, *Chairman;* John G. Owen, Henry Smith.

Executive Committee.

The Officers, and the Chairmen of the several sub-committees.

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TITLES OF PAPERS ENTERED FOR SARATOGA MEETING.

The rules requiring that every paper, or an abstract of it, be sent to the Standing Committee, through the Permanent Secretary, before the title can be transmitted by the Standing Committee to the Sectional Committee. Authors who have not sent in abstracts of their papers should therefore do so as soon as possible.

1. On the Anthracite Coal Fields of Penn. and their rapid exhaustion. (30 m.)..... P. W. Sheafer
2. The Succession of Glacial Deposits in New England. (20 m.)..... Warren Upham
3. The Cotton Worm in the United States. Explanation of its work, and mooted points in its habits cleared up. (20 m.)..... Chas. V. Riley
4. Solubility of Ozone. (20 m.)..... Albert R. Leeds
5. Recent Contributions to the Physics of Microscope Objectives. (30–40 m.)..... Romyn Hitchcock
6. On the Conditions to be fulfilled by a Theory of Life. (40 m.).....Chas. Sedgwick Minot
7. Experimental Determination of the Velocity of Light. (40 m.).....Albert A. Michelson
8. On the Anatomy of Plathelminths. (20 m.)....Chas. Sedgwick Minot
9. On the Histology of Insects. (25 m.)..... ..Chas. Sedgwick Minot
10. On the Molluscan Dredgings in the Gulf of Mexico and vicinity by the U. S. Coast Survey Blake in 1877-9. (15 m.)..... Wm. H. Dall
11. On the Fertilization of Yucca. (15 m.)..... Thomas Meehan
12. Philosophy of the Pupation of Butterflies, and particularly of the Nymphalidae. (15 m.).. C. V. Riley
13. The great Oberstein Industry, modus operandi of coloring, cutting and polishing Agates and secondary gems; illustrated by a fine collection of specimens. (10 m.) .....Mrs. Erminnie A. Smith
14. The Substances Amber and Jade, illustrated by remarkable specimens. (20 m.) ..... Mrs. E. A. Smith
15. Description of a Polished Stone Implement found in Monkton, Vt. (5 m.)..... John M. Currier
16. Objects of Sex and of Odor in Flowers. (20-25 m.) Thos. Meehan
17. Archæology of Missouri. (15 m.)..... ..... W. H. H. Russell
18. Notice of some deposits of Alkaline Salts in Idaho. (10 m.)..... .. Henry B. Nason
19. The Geological action of the Acid of Humus: I. On Unconsolidated Deposits. (45 m.).... Alexis A. Julien
20. The Geological action of the Action of Humus: II. On Solid Rocks. (45 m.)..... Alexis A. Julien

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21. On a genus of large and remarkable crinoids found in Tennessee. (10 m.) ..... James M. Safford
22. First results from a new diffraction ruling engine. (5 m.) ..... Wm. A. Rogers
23. On a Standard Meter and its subdivisions into equal parts. (10 m.) ..... Wm. A. Rogers
24. On the coefficient of expansion of Nickel-plated bars. (5 m.) ..... Wm A. Rogers
25. On the Tremors communicated to transit piers and dock piers through the walls of an observatory building. (5 m.) ..... Wm. A. Rogers
26. The comet of 1771. Investigation of its orbit. (10–15 m.) ..... Wm. Beebe
27. Some observations on the depth of snow compared with the depth of the water it yields. (5 m.) ..... John Brockleby
28. On the species of Bornean Orangs, with notes on their habits; illustrated by specimens. (20 m.) Wm. F. Hornaday
29. Estimation of the Logographic value of consonant sounds. (7 m.) ..... Clarence J. Blake
30. The Ethnology of the Islands of the Indian and Pacific Oceans; illustrated by a large colored map. (20 m.) ..... Albert S. Bickmore
31. On the use of glass circles for meridian instruments and of glass bars for standards of length. (5 m.) ..... Wm. A. Rogers
32. Statement of generalization reached in question in intersection of circles and intersection of spheres: results stated, not the geometrical discussion. (10 m.) ..... Benj. Alvord
33. Meteoric constitution of the Siderial Universe; I. Cooling of the Sun. (45 m.) ..... Benj. Peirce
34. Meteoric constitution of the Siderial Universe; II. Cooling of the Earth. (45 m.) ..... Benj. Peirce
35. Exhibition of Brain Preparation ..... William Osler
36. On a curious case of crystallization of Canada Balsam. (10 m.) ..... George F. Barker
37. On the conversion of Mechanical Energy into Heat by Magneto-Electric machines. (15 m.) George F. Barker
38. On the Identity of the lines of Oxygen with bright solar lines, as shown in Photographs taken with increased Dispersion. (15 m.) ... Henry Draper
39. Archæological notes from Japan. (10 m.) ..... Edward S. Morse
40. Animal Architecture and the Law for circulating its fluids, inclusive of the blood, the juices and the pulmonic air. (60 m.) ..... W. H. Triplett
41. The Sign Language of the North American Indians. (30 m.) ..... Garrick Mallery
42. The newly discovered cave in Luray, Page Co., Va. (15 m.) ..... Jno. W. Chickering, jr
43. Observations of Double Stars. (15 m.) ..... Asaph Hall
44. On the use of the Telephone in Physical Investigations. (10 m.) ..... John Trowbridge
45. On a trigonometrical view of the Calculus. (10 m.) ..... John Trowbridge
46. The Ethnical influences of Physical Geography. (20 m.) ..... Danl. Wilson
47. The relation between Continental Outlines and Terrestial Magnetism. (18 m.) ..... Richard Owen

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48. On the Explanation of Hereditary transmission (10 m.) ..... Louis Elsberg
49. On the Deterioration of Library Bindings. (15 m.) ..... Wm. Ripley Nichols
50. Observations on the Variations in the temperature and chemical character of the water of Fresh Pond, Mass. (15 m.) ..... W. R. Nichols
51. A general Law indicating the location of Planets, Satellites, or Annular Rings around their Primaries. Also its Utility. (15 m) ..... Saml. Marsden
52. Proposed new form of Reflecting Telescopes. Also a compound Reflecting and Refracting Telescope. (10 m.) ..... Saml. Marsden
53. Action of Ozone upon the Coloring matters of Plants. (5 m.) ..... A. R. Leeds
54. On Experimental Solution of a Problem in the Doctrine of Chances. (5 m.) ..... T. C. Mendenhall
55. Bleaching of Sugar Syrups by Ozone. (5 m.) ... A. R. Leeds
56. Reduction of Carbonic Acid by Phosphorus at ordinary Temperature. (10 m.) ..... A. R. Leeds
57. Oxidation of Carbonic Oxide by Air over Phosphorus at ordinary Temperatures. (5 m.) ... A. R. Leeds
58. Genealogy by numbers. ..... J. C. Wharton
59. A table of remainders of 2^n to various prime moduli. (15 m.) ..... E. P. Austin
60. Two instances of apparent disinterestedness among animals. (5 m.) ..... Burt G. Wilder
61. Notes on the Anatomy of the cat's brain. (30 m.) B. G. Wilder
62. On a cat's brain with the corpus callosum absent or undifferentiated. (15 m.) ..... B. G. Wilder
63. Frozen sections of the cat preserved in Alcohol. (10 m.) ..... B. G. Wilder
64. Practical illustration of the use of some new or little known anatomical and physiological instruments and apparatus. (30 m.) ..... B. G. Wilder
65 Differential Electroscopes. (10 m.) ..... Thos. R. Baker
66 On a new predaceous lepidopterous Insects. (5 m.) J. Henry Comstock
67. The Trunk or Body of the higher animals one organ; the architecturo Cardiac Respiration its rythmic movements. (60 m.) ..... W. H. Triplett
68. The Laws and Facts demonstrating that physical Influences are the causes of epidemic of the Mississippi Valley in 1878. (60 m.) ..... C. Spinzig M. D.
69. Recently discovered cupreous veins at Blue Hill. Me. (12 m.) ..... C. H. Hitchcock
70. The Green Mountain Anticlinal. (20 m) ..... C. H. Hitchcock
71. Exhibition of crystals of sapphire from the gem beds of Ceylon, with brief remarks. (10 m.) A. C. Hamlin
72 On the occurrence of Microscopic Crystals in the Vertebra of the Toad, (*Bufo Americanus*) [With a Note by A. A. Julien.] ..... H. Carrington Bolton
73. The Interoceanic Canal Problem. (25 m.) ..... Edward P. Lull
74. A short Biography of the Menhaden. (14 m.) G. Brown Goode
75. Percentage of sugar in Sap of the sugar Maple, and causes which determine its variation; with note on pressure of sap. (5 m.) ..... Harvey M. Wiley
76. A modified method of collecting and measuring gases soluble in water. (5 m.) ..... H. W. Wiley

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77. On a remarkable Crinoidal form recently discovered in Tennessee, with exhibition of specimens. (15 m.)..... James M. Safford
78. On the thinning out and absence of Upper Silurian and Devonian formation in Tennessee. (10 m.)..... J. M. Safford
79. On a resonant Tuning Fork. (5 m.)....e..... Thos. A. Edison
80. On the Phenomena of heating Metal in vacuo by means of an electric current. (20 m.)..... Thos. A. Edison
81. On the Electro-chemical Telephone. (30 m.)... Thos. A. Edison
82. Star Places. (— m)..... .... Lewis Boss
83. Solar Parallax from minor Planets at Opposition (— m.)... .... Lewis Boss
84. On Explosive and Detonating Compounds. (10 m.)..... Benj. S. Hedrick
85. On some large and remarkable Stone Implements of the Southern Mound builders. (10 m.)... F. W. Putnam
86. On the Pottery of the Southern Moundbuilders. (25 m.)... .... F. W. Putnam
87. Superstitions of the Ancient Inhabitants of the Mississippi Valley relative to the Rabbit. (25 m.)..... John G. Henderson
88. Superstitions Among the Ancient Inhabitants of the Mississippi Valley relative to the Owl. (15 m.)..... J. G. Henderson
89. Superstitions Among Ancient Inhabitants of the Mississippi Valley relative to Thunder. (50 m.)..... J. G. Henderson
90. Superstitions Among Ancient Inhabitants of the Mississippi Valley relative to Serpents. (80 m.)..... J. G. Henderson
91. Lake Erie and the Eries. (22 m.)..... J. G. Henderson
92. Notice of a Catalogue of Scientific Serials. (5 m.)..... S. H. Scudder
93. On the Geology of Port Henry, N. Y. (10 m.).. T. Sterry Hunt
94. On some pre-Cambrian Rocks in America and Europe. (20 m.)..... T. Sterry Hunt
95. On the International Congress. (5 m.)..... T. Sterry Hunt
96. Consonantal Expression of Emotion. (10 m.)... Clarence J. Blake
97. The Fauna of the Lower Helderberg Group, in relation of the Corals Bryozoa and Echinodermata..... James Hall
98. Household Chemistry. (10 m.)..... Ellen H. Richards
99. Notes upon the Genera Fenestella, Hemitrypa, etc. (20 m)..... James Hall
100. On the genus Pleurotomaria. (10 m.)..... W. H. Dall

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LIST OF MEMBERS REGISTERED

Tuesday, August 26.

1. P. O. Williams, Watertown, N. Y., Arlington Hotel.
2. H. W. Wiley, Lafayette, Ind., Waverley Hotel.
3. F. W. Putnam (and daughter), Cambridge, Mass., 806 U. S. Hotel.
4. Geo. W. Kittredge, North Andover, Mass., 806 U. S. Hotel.
5. A. R. Grote, Buffalo, N. Y., U. S. Hotel.
6. Geo. F. Barker, Phila., Pa., U. S. Hotel.
7. Mrs. and Miss Barker, Phila., Pa., U. S. Hotel.
8. H. Carrington Bolton, Hartford, Conn., U. S. Hotel.
9. E. P. Austin, Boston, Mass., Waverley Hotel.
10. John Le Conte, Phila., Pa., U. S. Hotel.
11. Wm. Saunders, London, Can., U. S. Hotel.
12. B. Pickman Mann, Cambridge Mass., 534 N Broadway.
13. H. F. Bassett, Waterbury Conn., U. S. Hotel.
14. Albert. R. Leeds, Hoboken, N. J., U. S. Hotel.
15. Theo. F. Jewell, Navy Yard, N. Y. (U. S. S. Constitution), 526 Broadway.
16. W. H. H. Russell, St. Louis, Mo., U. S. Hotel.
17. Samuel Marsden, St. Louis, Mo., U. S. Hotel.
18. William C. Wyckoff, New York, U. S. Hotel.
19. A. R. McNair, U. S. Navy, Saratoga, 626 Broadway.
20. John G. Henderson, Winchester, Ill., U. S. Hotel.
21. J. A. Lintner, State Museum, Albany, 534 Broadway.
22. Saml. H. Scudder, Cambridge Mass., U. S. Hotel.
23. Wm. Burke, Washington, D. C., Waverley Hotel.
24. J. W. Powell, Washington, D. C., U. S. Hotel.
25. J. K. Rees, St. Louis, Mo., U. S. Hotel.
26. E. A. Dalrymple, Balt., Md., Congress Hall.
27. O. C. Marsh, New Haven, Conn., U. S. Hotel.
28. C. W. Palfrey, Salem, Mass., Congress Hall.
29. Wm. Beebe, New Haven, Conn., Clarendon.
30. H. L. Eustis, Cambridge, Mass., U. S. Hotel.
31. A. C. Hamlin, Bangor, Me., U. S. Hotel.
32. Maria Mitchell, Poughkeepsie, Congress Hall.
33. A. W. Phillips, New Haven, Conn., Broadway Hall.
34. A. Springer, Cincinnati, O., Congress Hall.
35. Wm. McMurtrie, Washington, D. C.
36. Joseph Lovering, Cambridge, Mass., Congress Hall.
37. L. P. Kinnicutt, Worcester, Mass., Congress Hall.
38. John G. Morris, Baltimore, Md., Waverley Hotel.

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39. Rev. C. J. S. Bethune, Port Hope, Ont., U. S. Hotel.
40. S. A. Lattimore, Rochester, N. Y.
41. Wm. Lilly, Mauch Chunk, Pa.
42. Margaretta Bowles, Louisville, Ky., 534 N Broadway.
43. L. H. Morgan, Rochester, N. Y., Waverley.
44. James M. Safford, and daughter, Nashville, Tenn., Congress Hall.
45. T. Sterry Hunt, Montreal, Can., U. S. Hotel.
46. Chas. E. Munroe, Annapolis, Md., U. S. Hotel.
47. F. B. Hough, Lowville, N.Y., U. S. Hotel.
48. A. A. Michelson, U. S. N., New Rochelle, N. Y., U. S. Hotel.
49. Lester F. Ward, Washington, D. C., Vermont House.
50. Daniel Wilson, Toronto, Ont., Morey House.
51. James Hall, Albany, Albemarle House.
52. W. S. Barnard, Ithaca, Broadway Hall.
53. C. F. Emerson, Hanover, N. H., U. S. Hotel.
54. John J. Bell, Exeter, N. H., Congress Hall.
55. A. E. Dolbear, College Hill, Mass.
56. W. Hudson Stephens, Lowville, N. Y., Congress Hall.
57. Geo. W. Holley, Niagara Falls, P. P. Wiggins.
58. W. H. Pulsifer, St. Louis, Mo., U. S. Hotel.
59. Traill Green, Easton Pa., Congress Hall.
60. Wm. Harkness, U. S. N. Washington, D. C., Clarendon.
61. C. H. Hitchcock, Hanover, N. H., U. S. Hotel.
62. Leonard Waldo, Cambridge, Mass., Clarendon.
63. Daniel S. Martin, New York, at Dr Strongs
64. John Trowbridge, Cambridge, Mass., Grand Union.
65. Wm. Ripley Nichols, Boston Mass., U. S. Hotel.
66. P. W. Sheafer, wife and son, Pottsville Pa., Clarendon.
67. E. R. Leland, and daughter, New York, Clarendon.
68. D. G. Eaton Brooklyn, Congress Hall.
69. F. A. P. Barnard, New York, Clarendon.
70. F. W. Clark, Cincinnati, O., Congress Hall.
71. Mrs. A. L. Boardman, Boston, Mass., Garden View.
72. S. P. Langley, Allegheny City, U. S. Hotel.
73. Wm. H. Dall, Washington, D. C., Congress Hall.
74. C. L. Buckingham, Washington, D. C., Congress Hall
75. Thomas P. James and wife, Cambridge, U. S. Hotel.
76. Benjamin S. Hedrick, wife and daughter, Washington, Congress Hall.
77. Isaac E. Hasbrouck, New Brunswick, N. J., 554 N Broadway.
78. James T. Gardner, Albany, N. Y., cor Greenfield av.
79. J. Cleaveland Cady, New York, Congress Hall.

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PROGRAMME

OF THE

American Association for the Advancement of Science

FOR

Wednesday, August, 27, 1879.

MORNING.

Organization of the meeting in General Session, at 10 o'clock, in the Town Hall.

Meeting called to order by Professor O. C. Marsh, the retiring President.

Acceptance of the Chair by President Barker.

Invocation by the Rev. Peter Stryker.

Welcome to the Association by Dr. R. C. McEwen, Chairman of the Local Committee.

Reply by President Barker.

Announcements by the General Secretary of the arrangements made by the Local and Standing Committees.

Election (by ballot after open nomination) of six Fellows to the Standing Committee.

Election of new Members recommended by the Standing Committee.

Notice of Deceased Members.

Action on the proposed amendment to the Constitution, entitling life members to the annual volume of proceedings.

Agreement on the hours of meeting, and other general business.

(The Standing Committee recommend that the daily sessions begin at 10 A. M. and continue until 3 P. M.)

Adjournment of General Session and organization of Sections.

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Sectional Meetings in places mentioned below.

SECTION A.

Will meet in Trustees' Room (2d floor), Town Hall, for organization.

SECTION B.

Will meet in large hall (2d floor), Town Hall, for organization.

SUBSECTION C, CHEMISTRY.

Will meet in Room on second floor, Town Hall, for organization.

SUBSECTION D, MICROSCOPY.

Will meet in Corps Reading Room (2d floor), Town Hall, for organization.

As soon as the sections are organized, the respective Secretaries will report to the General Secretary.

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SECTION A.

MATHEMATICS, ASTRONOMY, PHYSICS, CHEMISTRY AND MINERALOGY.

Vice President.

Prof. S. P. Langley, of Alleghany.

Secretary.

Prof. John K. Rees, of St. Louis.

Sectional Committee.

Titles of Papers for **in Section A.**

(Papers will not be read in the Sections until Thursday.)

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PERMANENT SUBSECTION C.

CHEMISTRY.

Chairman.

Prof. Ira Remsen, of Baltimore.

Secretary.

Titles of Papers Entered for **in Subsection C.**

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PERMANENT SUBSECTION D.

MICROSCOPY.

Chairman.

Dr. Edward W. Morley, of Hudson.

Secretary.

Titles of Papers Entered for in Subsection D.

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SECTION B.

GEOLOGY, ZOOLOGY, BOTANY AND ANTHROPOLOGY.

Vice President.

Major J. W. Powell, of Washington.

Secretary.

Prof. A. G. Wetherby, of Cincinnati.

Sectional Committee.

Titles of Papers Entered for in Section B.

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NOTICE BY THE LOCAL COMMITTEE.

Accommodations in the Town Hall, on Broadway, have been secured for the use of the Association, and all the General and Sectional Sessions will be held there.

Rooms in the Town Hall for the various purposes of the Association have been assigned as follows:

Head-quarters of the Local Committee, Association Post Office, and Office of Permanent Secretary, No. 14 on first floor.

Standing Committee: President's Room on first floor.

General Session: Large Hall second floor.

Section A: Trustees' Room second floor.

Section B: Large Hall, second floor.

Subsection C: Room on second floor.

Subsection D: Microscopy, Corps Reading Room second floor.

Other rooms in the building for such Subsections as may be organized.

Parlor B: at the United States Hotel is also secured for the use of the Association, and will be the office of the Permanent Secretary, and of the Local Committee, when the Association is not in session.

Information in regard to Return Tickets, and to Hotels and Boarding houses will be furnished by Captain McNair of the Local Committee, at the office of the Permanent Secretary.

On the presentation of their tickets of Membership (blue) members may purchase, at nominal rates (fifty cents for each adult), tickets entitling them to all the privileges of Congress Spring Park, day or night. Tickets may be had of Mr. Schuyler, Superintendent of Congress Spring Park, at his office.

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NOTICE BY THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary as soon as possible after arrival, to register their names and receive their members' tickets.

All assessments and admission fees must be paid to the Permanent Secretary, or his Assistant

Blanks for entering the Titles of Communications and for Recommendation of members, at the office of the Permanent Secretary.

A list of newly-elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members to the Permanent Secretary.

A Subscription Book for the Saratoga volume will be opened at the office of the Permanent Secretary, and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50, or more, will receive a copy of the Saratoga volume, by mail, as soon as published.

Back volumes of the Proceedings can be had at the office of the Permanent Secretary, at $1.50 per volume. Any member requiring ten or more volumes to complete his set, may obtain them at $1.00 a copy.

Copies of the Transactions of the Association of Geologists and Naturalists can be had for $3.00.

Bound volumes of the Proceedings (27 vols.) are furnished at the office of the Permanent Secretary, for $1.00 a volume etxra, bound in one-half Turkey morocco; or 50 cents a volume extra (by mail 60 cents), bound in cloth. Uniform cloth covers for all the volumes can be had at 25 cents each (by mail 30 cents).

The Memoirs of the Association, No. 1, are furnished at $1.00 a copy at the office of the Permanent Secretary.

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nerican association for the advance-
ment of science — Committee on hospital-
ity.

Committee on Hospitality, A. A. A. S.

There are many members of the American Association for the Advancement of Science, whose scientific character and standing make it very desirable that they shall be present at the approaching meeting, but whose means prevent their being able to undertake the expense both of travelling and hotel charges.

It has been customary at all cities where meetings have heretofore been held, to entertain these gentlemen — together with their wives, in some cases — through private hospitality; and at the coming meeting here, which will last from Aug. 25 to Sept. 1, there will doubtless be many whom it will be indispensable to take care of in this way.

It is at a time when a large proportion of our citizens are away from town for the summer, and consequently it will be more difficult to find accommodations through the hospitality of individuals than it would be later in the season. Having this in view, the Committee on Hospitality respectfully and earnestly inquires if you would be willing to take into your house, for the term specified, a member of the Association, with, possibly, his wife: or would any of your friends do so.

Care would of course be taken by the Committee, to see that proper persons should be the recipients of such hospitality.

If you can render any aid in this way, please, at your earliest convenience, communicate with the undersigned, as it is important to know at once what can be done in order to perfect arrangements.

E. T. BOUVÉ,
P.O. Box 822, Boston.

Boston, July 26, 1880.

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— Entomological club.

ENTOMOLOGICAL CLUB

OF THE

American Association for the Advancement of Science.

THE ANNUAL MEETING will be held at the Museum of the Boston Society of Natural History, corner of Berkeley and Boylston Streets, Boston, commencing at 2 P.M., Tuesday, Aug. 24, 1880.

Several members have announced their intention of bringing forward certain topics for discussion. Mr. A. R. GROTE will speak of generic characters in the Noctuidae; Prof. A. J. COOK will report upon recent investigations in Apiculture; Mr. E. P. AUSTIN hopes to exhibit some interesting series from his extensive collection of North American Coleoptera; Dr. E. L. MARK will speak of some points in the anatomy of the Coccidae; Mr. WM. SAUNDERS will discuss Insectivorous Birds, their merits and demerits; Mr. J. D. PUTNAM, if able to attend, will present some notes on the North American Galeodes (Solpugidae), and exhibit specimens in illustration; Rev. H. C. MCCOOK will read a paper on the Honey Ants of the Garden of the Gods, Colorado; Mr. S. H. SCUDDER will exhibit interesting fossil insects, and illustrations of New England Butterflies; Mr. H. F. BASSETT, if present, will read a short paper on the structure and development of certain Hymenopterous Galls; Dr. J. L. LECONTE will present an essay on Lightening Bugs, and give a list of Coleoptera hatched from a few hickory twigs; Mr. EDWARD BURGESS will exhibit preparations of the structure of the mouth organs in the Lepidoptera; an essay on the classification of the Tortricidae may be expected from Prof. C. H. FERNALD; and Dr. H. A. HAGEN will present papers on the Hessian Fly, on the anatomy of *Productus deceptus*, and on a new worm parasitic on insects.

There will be an informal social gathering of Entomologists, at the same place, on the morning of the same day, from 10 A.M. to 1 P.M. The President's address will be given at the opening of the session in the afternoon.

During the meeting of the Association, a room will be constantly open for the exclusive use of the Entomologists, where special meetings or informal gatherings can be had at any time.

BOSTON, August 1, 1880.

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American Association for the Advancement of Science.

BOSTON MEETING, COMMENCING AUGUST 25, 1880,

UNDER THE PRESIDENCY OF

HON. LEWIS H. MORGAN, OF ROCHESTER, N. Y

SECOND CIRCULAR OF THE LOCAL COMMITTEE.

UPON registering their names at the Office of the Local and Permanent Secretaries, Room No. 6, Mass. Institute of Technology, members will receive a pamphlet containing a brief account of the scientific institutions of Boston, Cambridge, and Salem; a pocket map, embracing the region within a radius of six miles; together with a map of Cambridge, for use on Thursday, showing the position of the buildings, &c.

A general Programme of the entire Meeting, stating, so far as possible (with the exception of the papers to be read), the events of each day, will be ready for delivery on the morning of Wednesday. The subsequent daily programmes will contain only what is necessarily omitted from the first, including the order of papers at the sessions, lists of members present, &c.

Addresses at the opening session may be expected from the governor of the Commonwealth, Hon. JOHN D. LONG; the mayor of the city, Hon. FREDERIC O. PRINCE; and the chairman of the local committee, Prof. WILLIAM B. ROGERS.

In addition to the receptions already mentioned, will be one by the Hon. ROBERT C. WINTHROP, at his country residence in Brookline, probably on Friday evening.

The Physical Laboratory of the Institute of Technology will be open to the inspection of members between the hours of 11 and 1, on Friday and Saturday. Arrangements will also be made for a visit to the Physiological Laboratory of the Harvard Medical School.

To the list of hotels formerly given may be added the Hotel Wellesley, at Wellesley, fifteen miles from Boston, which can receive fifty guests at from $13.00 to $18.00 per week. This

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Hotel is beautifully situated, and is reached by the Boston and Albany Railroad, the Columbus Avenue Station of which is in the vicinity of the Institute of Technology; the trains run at convenient hours. Members preferring less expensive accommodations, can address Mr. BURGESS about other opportunities at Wellesley, where board and lodging for thirty to sixty persons can be obtained at "The Student's Castle," at from $8.00 to $13.00 per week; or, for an unlimited number, in floored tents on the same grounds, furnished with cots and other necessaries, at from $8.00 to $9.00 per week.

The Adams Express Co., the American Express Co., and the U. S. and Canada Express Co., have made liberal reductions on transportation, agreeing to send packages containing objects and instruments, for exhibition or special use at the meetings of the Association, to Boston, and back again, at half rates. All such packages must be addressed to the care of Prof. CHARLES R. CROSS, Mass. Institute of Technology. It is probable that other companies will also offer the same facilities.

The Western Union Telegraph Co. will transmit messages of a scientific or domestic nature free, for all members in attendance at the meetings.

The Committee is able to make the following announcements concerning railway facilities: —

CONCORD R. R. AND BRANCHES will give reduced rates.

NORTHERN NEW HAMPSHIRE R. R. will sell round trip tickets at two cents a mile each way.

CENTRAL VERMONT R. R. will give free return tickets through the Secretary of the committee.

BOSTON & PROVIDENCE R. R. will give free return checks to all points beyond Canton.

OLD COLONY R. R. will sell round-trip tickets from New York to Boston and return, at half-fare; and free return tickets to all intermediate points.

BOSTON & ALBANY R. R. will sell round-trip tickets from Albany to Boston and return, at half-fare.

NEW YORK, NEW HAVEN & HARTFORD R. R. will sell round-trip tickets from New York to Boston, via Springfield or Shore Line, good to go Aug. 22 to Aug. 27, inclusive, and to return to Sept. 4, for $6.00; from New Haven, $4.50; from Hartford, $3.50; and make proportional reduction from intermediate points.

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New York & New England R. R. will sell round-trip tickets (Norwich Line) from New York to Boston and return, at $3.00, and free return tickets from all intermediate points.

Eastern R. R. will sell round-trip tickets from Portland to Boston and return, at $3.00, good to go from Aug. 21 to Aug. 31, and to return until Oct. 1.

Boston & Maine R. R. will give the same rates as the Eastern.

Maine Central R. R. will sell round-trip limited tickets from Bangor and other points, at half fare.

European and North American R. R. will sell round-trip limited tickets at half fare.

St. John and Maine R. R. the same (probably).

Michigan Central R. R. will sell round-trip tickets for half fare.

Chicago, St. Louis, and New Orleans R. R. will sell return tickets, good until September 10, from Cairo, at half fare.

Cleveland, Columbus, Cincinnati, and Indianapolis R. R. will make reduced rates.

Union Pacific R. R. will give half-local rates, from Salt Lake to Omaha, but no reduction from Colorado.

Central Pacific R. R. will probably do the same as the U. P. R. R.

East Tennessee, Virginia, and Georgia R. R. will sell round-trip tickets from Knoxville to Washington and return at five cents per mile one way.

Philadelphia, Wilmington, and Baltimore R. R. will sell round-trip tickets from Baltimore to Boston and return for $14; or, including coach in New York, $15.

Grand Trunk Railway will sell round-trip tickets from Chicago and Detroit at one fare the round trip. Probably proportionate rates from other points.

Boston, Concord, and Montreal R. R. will sell tickets at reduced rates on previous application of each member to General Ticket Agent, Plymouth, N.H.

Fitchburg R.R. and Hoosac Tunnel Line will furnish round-trip tickets for fare one way.

Many other lines have not yet made definite replies, but are expected to make reductions; so that members are advised, in any case, to ask for reduced fares.

Those living off from the foregoing lines will be obliged to purchase tickets, as best they can, to some point on lines from which reduced rates are made.

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Over all of the lines, members will need a *certificate of membership*, signed by F. W. PUTNAM, Permanent Secretary of the Association, or they will not be able to purchase tickets at other than the regular rates. Such certificates can only be had of Mr. PUTNAM on payment of the assessment ($3.00), for the present meeting. *It is particularly requested* that members purposing attending the Boston meeting will, *as soon as possible*, send for their certificates.

The prices of tickets cannot, in all cases, here be given. Inquiries must be made at the stations, or of the companies mentioned.

ADDRESS

Express parcels, physical instruments, &c., to Prof. C. R. CROSS, Mass. Institute of Technology.

Microscopes and accessory apparatus, to Prof. J. M. ORDWAY, Mass. Institute of Technology.

Concerning Railway Facilities, Dr. J. R. CHADWICK, Clarendon, corner Marlborough Street.

Concerning Hotel Accommodations, either, directly, the hotel selected; or Gen. FRANCIS A. OSBORN, 43 Milk Street.

Concerning Board and Lodging, Mr. EDWARD BURGESS, Boston Society of Natural History.

Concerning Private Hospitality, Col. E. T. BOUVÉ, 65 Summer Street.

Concerning any other matters not pertaining to the Permanent Secretary, address either of the Local Secretaries, Messrs. S. H. SCUDDER, E. BURGESS, Boston Society of Natural History.

N. B. — All communications concerning regular business of the Association, or papers to be presented at the meeting, must be addressed to the Permanent Secretary, Mr. F. W. PUTNAM, whose address after this date will be Mass. Institute of Technology, Boston.

BOSTON, August 7, 1880.

Mr. Edward Burgess,
Boston Society of Natural History.

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Prof. E. N. Horsford.
Prof. Joseph Lovering.
Prof. Benjamin Peirce.
Mr. Justin Winsor.
Dr. Morrill Wyman.

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Rev. Edward S. Atwood.
Rev. Edwin C. Bolles.
Mr. Caleb Cooke.
Mr. James H. Emerton.
Mr. George R. Emmerton.
Hon. William C. Endicott.
Mr. Abner C. Goodell, Jr.
Mr. Daniel B. Hagar.
Mr. Thomas F. Hunt.
Rev. Fielder Israel.
Dr. Amos H. Johnson.
Mr. Frank R. Kimball.
Hon. James Kimball.
Hon. Otis P. Lord.
Dr. William Mack.
Mr. Richard C. Manning, *Secretary*.
Prof. Edward S. Morse.
Gen. Henry K. Oliver.
Mr. Francis Peabody.
Mr. S. Endicott Peabody.
Mr. David Pingree.
Mr. Robert S. Rantoul.
Mr. John Robinson.
Mr. Jacob C. Rogers.
Gen. William Sutton.
Dr. Henry Wheatland, *Chairman*.
Hon. Stephen G. Wheatland.
Mr. George M. Whipple.

Executive Committee.

Prof. William B. Rogers, Mr. F. W. Putnam, Mr. C. W. Scudder, Mr. S. H. Scudder, Mr. E. Burgess, with the Chairmen and Secretaries of the several special committees.

Secretaries.

Mr. Samuel H. Scudder,
Harvard College Library, Cambridge.

Mr. Edward Burgess,
Boston Society of Natural History.

Treasurer.

Mr. Charles W. Scudder,
69 Kilby Street, Boston.

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Mr. Ernest W. Bowditch.
Dr. Henry P. Bowditch, *Secretary.*
Mr. C. H. Dalton.
Mr. W. M. Davis, Jr.
Dr. John Dean.
Dr. Thomas Dwight.
Dr. R. T. Edes.
Mr. J. Rayner Edmands.
Mr. R. B. Forbes.
Mr. James B. Francis.
Dr. Samuel A. Green.
Prof. H. W. Haynes.
Prof. J. B. Henck.
Mr. Hamilton A. Hill.
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Mr. H. F. Mills.
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Gen. F. W. Palfrey.
Mr. S. R. Payson.
Mr. E. S. Philbrick.
Mr. J. D. Philbrick.
Dr. C. P. Putnam.
Dr. J. J. Putnam.
Dr. H. P. Quincy.
Col. H. S. Russell.
Mr. C. S. Storrow.
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Prof. H. L. Whiting.
Dr. Edward Wigglesworth.
Dr. C. H. Williams.

Cambridge Committee

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Prof. William Cook.
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Pres. C. W. Eliot.
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Dr. G. L. Goodale.
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Mr. S. H. Scudder.
Mr. Arthur Searle.
Prof. N. S. Shaler.
Prof. John Trowbridge.
Mr. Sereno Watson.
Prof. C. J. White.
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PROGRAMME

OF THE

TWENTY-NINTH MEETING

OF THE

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

Commencing Wednesday, August 25th, 1880,

IN

BOSTON, MASS.

BOSTON:
PUBLISHED BY THE LOCAL COMMITTEE.
1880.

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PRESS OF A. A. KINGMAN.
BOSTON SOCIETY OF NATURAL HISTORY.

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FOR THE

BOSTON MEETING.

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ASAPH HALL, of Washington, D. C.

Vice President, Section B.
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JOHN M. ORDWAY, of Boston, Mass.

Chairman of Permanent Subsection of Microscopy.
S. A. LATTIMORE, of Rochester, N. Y.

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Secretary of Permanent Subsection of Anthropology.
J. G. HENDERSON, of Winchester, Ill.

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FOR THE

BOSTON MEETING.

Past Presidents.—BENJAMIN PEIRCE, of Cambridge; JAMES D. DANA, of New Haven; JAMES HALL, of Albany; STEPHEN ALEXANDER, of Princeton; ISAAC LEA, of Philadelphia; F. A. P. BARNARD, of New York; J. S. NEWBERRY, of New York; B. A. GOULD, of Boston; T. STERRY HUNT, of Montreal; ASA GRAY, of Cambridge; J. LAWRENCE SMITH, of Louisville; JOSEPH LOVERING, of Cambridge; JOHN L. LECONTE, of Philadelphia; J. E. HILGARD, of Washington; WILLIAM B. ROGERS, of Boston; SIMON NEWCOMB, of Washington; O. C. MARSH, of New Haven.

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Officers of the present Meeting.—LEWIS H. MORGAN, of Rochester; ASAPH HALL, of Washington; ALEXANDER AGASSIZ, of Cambridge; F. W. PUTNAM, of Cambridge; JOHN K. REES, of St. Louis; HENRY B. NASON, ;of Troy; C. V. RILEY, of Washington; WILLIAM S. VAUX, of Philadelphia.

From the Association at Large.—WILLIAM HARKNESS, of Washington; S. H. SCUDDER, of Cambridge; HENRY MORTON, of Hoboken; C. A. YOUNG of Princeton; J. G. MORRIS, of Baltimore; F. W. CLARKE, of Cincinnati.

The last six hold office only until the appointment of their successors, who are elected on Wednesday, August 25.

The Committee will meet on Tuesday, August 24, at 11 A. M., in the Institute of Technology, Room 7. Also at the same place at 9 A. M., on Wednesday, August 25.

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LOCAL COMMITTEE

FOR THE

BOSTON MEETING.

Chairman.

PROF. WILLIAM B. ROGERS.

Secretaries.

SAMUEL H. SCUDDER, Harvard College Library, Cambridge.
EDWARD BURGESS, Boston Society of Natural History.

Treasurer.

CHARLES W. SCUDDER, 69 Kilby Street, Boston.

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Committee on Rooms for Meetings:—Prof. W. P. Atkinson; L. S. Burbank; Edw. Burgess; W. O. Crosby; Prof. C. R. Cross; Prof. G. H. Howison; Prof. A. Hyatt; Prof. G. Lanza; Prof. W. R. Nichols; Prof. J. M. Ordway, *Chairman;* Prof. C. P. Otis; Prof. R. H. Richards, *Secretary;* E. P. Seaver; Col. Homer B. Sprague; Prof. W. R. Ware; Prof. C. H. Wing.

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Committee on Excursions:—Edward Atkinson, *Chairman;* Ernest W. Bowditch; Dr. Henry P. Bowditch, *Secretary;* C. H. Dalton; W. M. Davis, Jr.; Dr. John Dean; Dr. Thomas Dwight; Dr. R. T. Edes; J. Rayner Edmands; Prof. C. E. Fay; R. B. Forbes; James B. Francis; Dr. Samuel A. Green; Prof. H. W. Haynes; Prof. J. B. Henck; Hamilton A. Hill; Dr. S. Kneeland; H. F. Mills; Prof. Henry Mitchell; Prof. William H. Niles; Gen. F. W. Palfrey; S. R. Payson; E. S. Philbrick; J. D. Philbrick; Dr. C. P. Putnam; Dr. J. J. Putnam; Dr. H. P. Quincy; Col. H. S. Russell; C. S. Storrow; Dr. J. C. Warren; Prof. H. L. Whiting; Dr. Edward Wigglesworth; Dr. C. H. Williams.

Cambridge Committee:—A. Agassiz, *Chairman;* Lucien Carr; Prof. William Cook; Prof. J. P. Cooke; Pres. C. W. Eliot; Prof. H. L. Eustis; Dr. W. G. Farlow; Prof. Wolcott Gibbs; Dr. G. L. Goodale; Prof. Asa Gray; Dr. H. A. Hagen; Prof. E. N. Horsford; Prof. Joseph Lovering; Prof. Benjamin Peirce; Prof. E. C. Pickering, *Secretary;* F. W. Putnam; Prof. W. A. Rogers; S. H. Scudder; Arthur Searle; Prof. N. S. Shaler; Prof. John Trowbridge; Sereno Watson; Prof. C. J. White; Prof. J. D. Whitney; Justin Winsor; Dr. Morrill Wyman.

Salem Committee:—Rev. E. S. Atwood; Rev. Edwin C. Bolles; James H. Emerton; George R. Emmerton; Hon. William C. Endicott; Abner C. Goodell, Jr.; Daniel B. Hagar; Thomas F. Hunt; Rev. Fielder Israel; Dr. Amos H. Johnson; Frank R. Kimball; Hon. James Kimball; Hon. Otis P. Lord; Dr. William Mack; Richard C. Manning, *Secretary;* Prof. Edward S. Morse; Gen. Henry K. Oliver; Francis Peabody; S. Endicott Peabody; David Pingree; Robert S. Rantoul; John Robinson; Jacob C. Rogers; Gen. William Sutton; Dr. Henry Wheatland, *Chairman;* Hon. Stephen G. Wheatland; Capt. George M. Whipple.

Executive Committee:—Messrs. William B. Rogers; F. W. Putnam; C. W. Scudder; S. H. Scudder; E. Burgess, with the Chairman and Secretaries of the several special committees.

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ANNOUNCEMENT OF THE LOCAL SECRETARIES.

Members are requested to call and register their names at the office of the Local and Permanent Secretaries, room 6, first floor of the Institute, as soon as possible after their arrival. They are requested to enter separately each member of their families accompanying them. Each person so registered will receive a ribbon, stamped with the number against his or her name upon the register, and is requested to wear it during the meeting. This will greatly facilitate the arrangements upon excursions, at lunch, &c., besides having other advantages. Upon registering their names, members will receive a pamphlet containing a brief account of the scientific institutions of Boston, Cambridge, and Salem; a pocket map, embracing the region within a radius of six miles; together with a map of Cambridge, for use on Thursday, showing the position of the buildings, &c.

The present Programme states, as far as possible, with the exception of the papers to be read, the events of each day. The subsequent daily programmes will contain only what is necessarily omitted from this, including the order of papers at the sessions, lists of members present, &c.

Members of the Local Committee will be in waiting at the Institute to render such assistance as may be needed, and will be designated by a small colored button.

Members of the Railroad Committee will be in attendance at the Institute, room 6, from 9 to 10 o'clock, daily, to answer questions concerning additional lines which have offered reduced rates, and to arrange for the delivery of tickets. Members are requested to complete their arrangements for return at an early day. The reduction of fare upon the railways is extended to the families of members.

Members of the Excursion Committee will be in attendance at the same place and time; and members of the Association intending to avail themselves of the opportunities offered, will please register their names as soon as possible.

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Members of the Lodging Committee may also be found in the same place at the same hour.

The Western Union Telegraph Company will send domestic and scientific messages from any of the city offices, free to all members showing members' tickets, from Aug. 25 to Sept. 1, inclusive. One of the Company's offices has been established in the Institute, room 2. Others will be found at many of the hotels and railroads.

The American Bell Telephone Company will extend the same privileges to members on the same conditions. The Institute office for the same will be found in the small room at right of the main entrance.

The American Rapid Telegraph Company offers the same facilities to members who may wish to use their wires from their office, 46 Devonshire street.

The Association Post-office will be found in Room 2. The office will be open from 8 A. M. to 5½ P. M., Aug. 24 to Sept. 1, excepting on Sunday, when it will be open only from 9½ to 10½ A. M. It will also be open from 7 to 9 on all evenings, excepting Thursday, Saturday, Sunday, and Monday.

Mails will be received four times a day: at 8, 9, 11:45 A. M., and at 4:30 P. M. Letters will be sent to the main office at 8:15 and 11 A. M.; and at 3:45 and 5:30 P. M. Letters are collected by the carrier at the street box, corner of Berkeley and Boylston street at 9 A. M., 12 M., 3, 6½ and 9 P. M.

The Express office is in Room 2. The reduced express rates on different lines may be learned of the attendant in charge.

The City Directory, Pathfinder, Railway Time-table, &c., will be found at the office of the Local Secretaries.

Horse cars passing by the Institute are designated by a white flag, with the letters A. A. A. S. upon it.

Members are invited to a daily lunch, which will be served from 1 to 2:30 in the Gymnasium of the Institute, corner of Boylston and Clarendon streets, excepting Thursday and Sunday. Admission will be given *only* to such as wear the badges or show member's tickets. Representatives of the press in

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attendance upon the meeting can obtain special tickets on application to the Local Secretaries, Room 6.

General invitations have been extended to the members of the Association as follows: —

The American Academy of Arts and Sciences, Athenaeum Building, Beacon Street, opens its library to the consultation of members of the Association, daily, from 10 A.M., to 2 P.M., and from 3 to 5 P.M.

The Massachusetts Historical Society 30 Tremont Street. Open daily.

The Boston Society of Natural History, in the same square as the Institute, invites members to visit its museum and library at any time from 9 A.M. to 1 P.M., and from 2 to 5 P.M. The Library is open for consultation.

The Hall and Library of the Massachusetts Horticultural Society, 100 Tremont street. Open daily. Members are also invited to attend the weekly show of plants, flowers, fruits and vegetables in Horticultural Hall, on Saturday, Aug. 28, from 12 M., to 3 P.M.

The house of the Historic, Genealogical Society, 18 Somerset street. Open daily. The privileges of the library are offered.

The rooms of the Society of Decorative Art, 8 Park Square. Open daily.

The Boston Young Men's Christian Association, Tremont corner of Eliot Street, extends its hospitalities and invites members to examine the advanced system of physical culture taught in its gymnasium.

The Boston Young Men's Christian Union, 18 Boylston Street, offers the hospitalities of its rooms at all hours.

The Warren Museum of Natural History, 92 Chestnut Street, will be open to members showing tickets, from 3 to 6 P.M., on Aug. 25, 27, 30, 31 and September 1.

The Boston Public Library is open daily from 9 A.M. to 9 P.M. Members may consult books freely.

Members are cordially invited to visit the Athenæum Li-

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brary, Beacon Street, and use the Reading Room during the meeting. Open until 9 P. M.

The Boston Medical Library, 19 Boylston Place. Open daily from 9½ A.M., to 6 P.M.

Perkins Institution and Massachusetts School for the Blind, So. Boston. The pupils are all absent, and repairs and a new building are in progress. The Director, Mr. Anagnos, would, however, be happy to show the printing office, tangible apparatus, &c., and to explain the general workings of the system to such as may notify him beforehand of the hour of their arrival.

The State House, with its cupola, from which a fine view of the region about Boston can be obtained, is open daily from 9 A.M., to 5 P.M. The library is undergoing repairs.

The Navy Yard, Charlestown. The Commandant, Com. George M. Ransom, will receive members with special attentions on any day it may suit them to come between the hours of 10 A.M. and 2 P.M.

Faneuil Hall is open daily from 8.30 A.M., to 5 P.M.

The Metric Bureau, No. 32, Hawley Street. Open daily.

The South Boston Iron Company would be pleased to have members visit its foundries in S. Boston, at any time. At present, however, it is not casting any guns.

The Physical Laboratory of the Institute of Technology will be open to the inspection of members between the hours of 11 A.M., and 1 P.M., on Friday and Saturday, Aug. 27, 28.

The Physiological Laboratory of the Harvard Medical School, North Grove street, will be open to members of the Physiological Subsection, at 3½ P. M., Tuesday, Aug. 31.

A cordial invitation has been received from the President and Faculty of Tufts College, Somerville, to visit that institution. Future announcement will be made of the time selected.

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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary (Room 6), as soon as possible after arrival, to register their names and receive their members' tickets.

All assessments and admission fees must be paid to the Permanent Secretary, or to his Assistant.

A list of newly-elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for entering the Titles of Communications and for Recommendation of Members can be obtained at the office of the Permanent Secretary.

A Subscription Book for the Boston volume will be opened at the office of the Permanent Secretary, and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50, or more, will receive a copy of the volume, by mail, as soon as published.

Back volumes of the Proceedings can be had at the office of the Permanent Secretary, at $1.50 per volume. Any member requiring ten or more volumes to complete his set, may obtain them at $1.00 a copy. (Vol. 26 is out of print.)

Copies of the Transactions of the Association of Geologists and Naturalists can be had for $3.00.

Bound volumes of the Proceedings (28 vols.) are furnished at the office of the Permanent Secretary, for $1.00 a volume extra, bound in one-half Turkey morocco; or 50 cents a volume extra (by mail 60 cents), bound in cloth. Uniform cloth covers for all the volumes can be had at 25 cents each (by mail 30 cents).

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The Memoirs of the Association, No. 1, are furnished at $2.00 a copy, in paper covers, or for $3.50 bound in half Turkey morocco.

☞ The SARATOGA VOLUME was unavoidably delayed until just prior to the Boston Meeting. Members will find their copies ready for delivery at the office of the Permanent Secretary. Those not called for will be sent by mail after the meeting.

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ANNOUNCEMENT OF THE STANDING COMMITTEE.

The Standing Committee particularly requests that after papers have been read authors will leave their MSS. with the Secretaries of the Sections and Subsections, in order that the papers may be referred at once to the Publication Committee for consideration.

The Committee also requests authors to condense their papers as much as possible, since, owing to the number likely to be presented at the meeting, it will hardly be possible to print very long communications in the volume. When an abstract can be given which will satisfactorily cover the substance of the paper, the Committee hopes that such will be left for publication in place of the paper in full.

Arrangements have been perfected by the Permanent Secretary for the early publication of the Proceedings of the Boston Meeting. The rules of the Association require papers to be in the hands of the Permanent Secretary within one month after adjournment, but if authors will comply with the above request of the Committee much time and labor will be saved.

By vote of the Committee at the Saratoga Meeting, titles of papers will not be entered on the list of papers received unless accompanied by abstracts. *Papers cannot be received after Saturday noon, August 28.*

The Committee takes the opportunity of calling attention to the fact that the increase of membership during the last two years, makes it important to reprint volumes 26 (Nashville Meeting, 1877), and 27 (St Louis Meeting, 1878), of the Proceedings. Owing to the financial condition of the Association this cannot be done without liberal assistance on the part of members and others interested. The Committee therefore hopes that all who feel able to do so will leave their contributions for this purpose at the office of the Permanent Secretary.

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TITLES OF PAPERS

ENTERED UP TO AUGUST 20TH, 1880,

FOR THE

BOSTON MEETING.

(The letter following the number shows the Section to which the paper belongs.)

1, A. Determination of the rotation-time of Jupiter, from observations of the red spot in 1879–80; together with the physical character and changes of the spot. (— m.) . . . H. S. PRITCHETT.

2, A. The force of effective molecular action, and the mechanical laws and properties dependent upon it. (60 m.) . . . . W. A. NORTON.

3, A. Determination of the comparative dimensions of ultimate molecules, and deduction of the specific properties of substances. (60 m.) W. A. NORTON.

4, B. Comparative anatomy as a part of the medical curriculum. (15 m.) . . HARRISON ALLEN.

5, B. The Pulmonates of the Palæozoic period. (20 m.) J. W. DAWSON.

6, B. Color-blindness. (30 m.) . . B. JOY JEFFRIES.

7, A. Maxima and minima tide-predicting machine. (20 m.) . . . . WM. FERREL.

8, B. The Cupriferous series in Minnesota. (30 m.) N. H. WINCHELL.

9, B. Distinguishing species of Populus and Juglans by the young naked branches. (8 m.) W. J. BEAL.

10, A. Laws governing the decomposition of equivalent solutions of iodides under the influence of actinism, and their application to the actinometry of solar, electric and magnesium light. (25 m.) ALBERT N. LEEDS.

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11, A. Action of sun-light in the production of chlorinated addition-products of Benzene and Naphthalene, with descriptions of two new chlorine derivatives of Naphthalene. (30 m.) ALBERT N. LEEDS.

12, A. Action of hyponitric anhydride upon organic substances, with descriptions of three new oxygenated derivatives of the aromatic group — Monoxybenzene, Tetroxynaphthalene and Naphthodiquinene, (30 m.) . . ALBERT N. LEEDS.

13, B. The Dacotah tribes. (12 m.) H. B. CARRINGTON.

14, B. Ethnology of Africa, illustrated by a large manuscript map. (20 m.) . A. S. BICKMORE.

15, B. Improved Stereograph for delineating the outlines of crania. (15 m.) . . A. S. BICKMORE.

16, A. Friction of lubricating oils. (30 m.) C. J. H. WOODBURY.

17, A. Problems in Watson's co-ordinates. (20 m.) THOMAS HILL.

18, B. Iron mines of Ore Hill, Conn., and vicinity, and the making of pig iron. (20 m.) W. A. STEARNS.

19, B. Kames or Eskars of Maine. (20 m.) GEO. H. STONE.

20, B. The Voguls. (— m.) . . . A. KOCSIS.

21, B. Evidences of the effect of chemico-physical influences in the evolution of branchipod crustaceans. (15 m.) CARL F. GISSLER.

22, A. Steady and vortex motion in viscous incompressible fluids. (20 m.) . . . THOMAS CRAIG.

23, B. Prehistoric altars of Whiteside County, Illinois. (10 m.) . . . . W. C. HOLBROOK.

24, B. Parturition in a kneeling posture, as practiced by the women of the moundbuilder and stone-grave race. (— m.) . . C. FOSTER WILLIAMS.

25, A. Improvement of the Mississippi River. (15 m.) W. H. BALLOU.

26, B. The excavation of the upper basin and clove of the Kaaterskill, Cattskill Mountains, N. Y. (20 m.) ALEXIS A. JULIAN.

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27, A. Microscopic studies in Central Florida. (15 m.)
C. C. MERRIMAN.

28, B. Field work by amateurs. (15 m.)
ELLEN H. WALWORTH.

29, A. Spectroscopic notes: being a notice of certain spectroscopic observations, principally solar, made in 1879 and 80. (15 m.) . C. A. YOUNG.

30, B. Condition of the kames and moraines of New England, as bearing upon the date of the glacial epoch. (7 m.) . . . . . G. F. WRIGHT.

31, B. Japanese caves. (20 m.) . . E. S. MORSE.

32, B. Notes on Japanese Pulmonifera. (15 m.)
E. S. MORSE.

33, B. Persistence of Korean ornamentation in Japanese pottery. (20 m.) . . . E. S. MORSE.

34, B. Prehistoric and early types of Japanese pottery. (30 m.) . . . . . E. S. MORSE.

35, B. Observations on Japanese Brachiopoda. (30 m.)
E. S. MORSE.

36, B. Folk lore of the Iroquois. (20 m.) E. A. SMITH.

37, B. Antiquities in the town of New Haven, Vermont. (5 m.) . . . . . J. M. CURRIER.

38, A. Action of sunlight on glass. (— m.) T. GAFFIELD.

39, A. Heat produced by magnetising and demagnetising iron and steel. (15 m.) JOHN TROWBRIDGE.

40, B. Theory of primitive democracy in the Alps. (30 m.)
D. W. ROSS.

41, B. Plan of the cerebro-spinal nervous system. (30 m.)
S. V. CLEVENGER.

42, B. Some observations on geometric beauty, as founded on angular rather than linear ratios. (25 m.)
S. EDWARD WARREN.

43, B. An investigation of the peach yellows. (15 m.)
B. D. HALSTED.

44, B. Fossil Dinocerata in the E. M. Museum at Princeton, N. J. (45 m.) . . . F. C. HILL.

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45, A. Lecture experiment for the direct determination of the velocity of sound. (10 m.) W. A. ANTHONY.

46, B. Scheme of the tenth census for obtaining statistics of untaxed Indians. (20 m.) GARRICK MALLERY.

47, A. Oxide of antimony found in extensive lodes, in Sonora, Mexico. (10 m.) . E. T. COX.

48, B. Law of land forming on our globe. (30 m.) RICHARD OWEN.

49, B. Menobranchus lateralis. (15 m.) P. R. HOY.

50, A. Progress made at the Observatory of Harvard College in the determination of the absolute coördinates of 109 fundamental stars. (11 m.) W. A. ROGERS.

51, A. A simple and expeditious method of investigating all the division errors of a meridian circle. (4 m.) WM. A. ROGERS.

52, A. The systematic errors of the Greenwich right ascensions of southern stars observed between 1816 and 1831. (7 m.) . . . WM. A. ROGERS.

53, A. Preliminary determination of the equation between the British imperial standard yard and the meter of the archives. (11 m.) . WM. A. ROGERS.

54, A. The probable error of a single observation at sea, deduced from the observations of W. H. Bacon, Cunard steamer "Scythia." (— m.) WM. A. ROGERS.

55, A. The errors of a few English, French, and American stage micrometers. (— m.) . WM. A. ROGERS.

56, B. The Island of Montreal, an island in the Ottawa. (3 m.) . . . . . WM. BOYD.

57, A. A new Morse-alphabet. (5 m.) WM. BOYD.

58, B. Exhibition of stone implements from the river drift of New Jersey. (10 m.) . . C. C. ABBOTT.

59, B. Indications of a pre-Indian occupancy of the Atlantic coast of North America, subsequent to that of palæolithic man. (10 m.) . C. C. ABBOTT.

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60, A. Unity, inversion, and semi-inversion in linear associative algebra. (15 m.) . . BENJ. PEIRCE.

61, A. Useful practical forms of linear associative algebra. (15 m.) . . . . . BENJ. PEIRCE.

62, A. Comets of minimum perihelion distance. (20 m.) BENJ. PEIRCE.

63, A. Cooling and possible age of the sun. (20 m.) BENJ. PEIRCE.

64, A. Cooling and possible age of the earth. (20 m.) BENJ. PEIRCE.

65, A. Speculative and practical search for a transneptunian planet.. (20 m.) . . . D. P. TODD.

66, A. On a solution of ferric gallate and ferric oxalate as a reagent for quantitative analysis of ammonia. (10 m.) . . . . N. B. WEBSTER.

67, B. Progress of geological investigation in New Brunswick, 1870–1880. (15 m.) . L. W. BAILEY.

68, B. Classification of mountains. (15 m.) W. H. NILES.

69, B. A new craniograph. (10 m.) J. G. HENDERSON.

70, B. Textile fabrics of the ancient inhabitants of the Mississippi valley. Pt. I. Material. Preparation of material and spinning, illustrated with specimens of bark, spindle whorls, models of spindles and cuts. (40 m.) J. G. HENDERSON.

71, B. Textile fabrics of the ancient inhabitants of the Mississippi valley. Part II. The loom and the fruit of the loom, illustrated with models of looms, models of shuttles and cuts. (40 m.) J. G. HENDERSON.

72, B. Textile fabrics of the ancient inhabitants of the Mississippi valley. Pt. III. Moundbuilder, stone-grave and cave fabrics, illustrated with specimens of cloth from mounds, copper axes with cloth adhering to same, and pottery with impressions of cloth on the surface. (40 m.) J. G. HENDERSON.

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73, B. Ancient mounds in vicinity of Naples, Illinois. Pt. II. Illustrated with skulls, pipes, copper axes, bone implements, and other articles from the mounds. (40 m.) . J. G. HENDERSON.

74, B. Sign language and pantomimic dances among the North American Indians. (40 m.) J. G. HENDERSON.

75, A. Remarks on tables for the reduction to zero of the measured volumes of gases. (10 m.) EDW. W. MORLEY.

76, A. The most convenient scale for a thermometer used in gas analysis. (10 m.) EDW. W. MORLEY.

77, A. Remarks on Jolly's apparatus for determining the amount of oxygen in air. (10 m.) EDW. W. MORLEY.

78, A. Some points in the construction of an apparatus for the accurate analysis of gases. (25 m.) EDW. W. MORLEY.

79, A. Numerical results for the mean ratio of oxygen to the sum of oxygen and nitrogen in atmospheric air. (15 m.) . . EDW. W. MORLEY.

80, A. Some conclusions as to the causes of the frequent fluctuations in the ratio of oxygen to nitrogen in the air at different times. (45 m.) E. W. MORLEY.

81, A. Laws governing the decomposition of equivalent solutions of iodides under the influence of Actinism. (20 m.) . . ALBERT R. LEEDS.

82, B. Incomplete adaptation as illustrated by the history of sex in plants. (20 m.) . LESTER F. WARD.

83, B. Partial revision of the nomenclature of the brain. (20 m.) . . . . BURT G. WILDER.

84, B. The foramina of Monro in man and the domestic cat. (20 m.) . . BURT G. WILDER.

85, B. The *crista fornicis*, a part of the mammalian brain apparently not hitherto described. (3 m.) BURT G. WILDER.

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86, B. Conventionalism in ornamentation of ancient American pottery. (10 m.) . . F. W. PUTNAM.

87, B. On the occurrence in New England of carvings by the Indians of the North-west coast of America. (10 m.) . . . . F. W. PUTNAM.

88, B. Evolution of parasitic plants. (20 m.) THOMAS MEEHAN.

89, A. New planetary nebulæ. (10 m.) EDWARD C. PICKERING.

90, A. New method of quickening the germination of garden, field, and forest seeds, discovered by the author. (15 m.) . . . THOMAS TAYLOR.

91, A. Constitution of the tartrates of antimony. (25 m.) F. W. CLARKE and HELENA STALLO.

92, A. Foreign substances in iron. (— m.) J. L. KLEINSCHMIDT.

93, A. On the musical pitch at present in use in Boston and vicinity. (10 m.) C. R. CROSS and WM. T. MILLER.

94, A. The use of the mercurial thermometer at high temperatures. (35 m.) . SILAS W. HOLMAN.

95, A. Methods in use at the observatory of Yale College for the verification of thermometers, and the testing of time-pieces. (10 m.) . . LEONARD WALDO.

96, A. The coefficient of expansion of gas solutions. (15 m.) E. L. NICHOLS and A. W. WHEELER.

97, A. The new action of magnetism on a permanent electric current. (30 m.) . . . E. H. HALL.

98, B. Preservation of fossil insects and plants at Mazon Creek. (15 m.) . . . J. W. PIKE.

99, B. The probable existence in America of the pre-historic practice of trepanning, in the cutting of rondelles or amulets from the skull. (10 m.) R. J. FARQUHARSON.

100, B. Contemporaneous existence of mastodon and man in America. (15 m.) . R. J. FARQUHARSON.

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101, B. Relation of the archaeology of Vermont to that of the adjacent states. (15 m.) GEO. H. PERKINS.

102, B. Sub-elytral air passages in Coleoptera. (12 m.) C. F. GISSLER.

103, B. The pipes of the mound-builders and pottery-makers. (10 m.) . . . . WM. MCADAMS.

104, B. Ancient agricultural implements of stone. (10 m.) WM. MCADAMS.

105, B. A stone implement, from the base of the drift in Illinois. (5 m.) . . . WM. MCADAMS.

106, B. Sea-shells in the mounds. (5 m.) WM. MCADAMS.

107, B. The mounds of Illinois. (40 m.) WM. MCADAMS.

108, B. Anthrax of fruit-trees; or the so-called fire-blight of the pear and twig-blight of the apple-tree. (30 m.) T. J. BERRILL.

109, A. Origin of gold placer deposits and formation of nuggets. (— m.) . . THOMAS EGLESTON.

110, A. An investigation of the vibrations of plates vibrated at the centre. (10 m.) . THOMAS R. BAKER.

111, A. Theory of the tides. (15 m.) JAMES D. WARNER.

112, B. The granites in the White Mountain Notch, upon Mount Willard, and their contact phenomena. (— m.) . . . GEORGE W. HAWES.

113, B. Further notes on the pollination of Yucca, and on Pronuba and Prodoxus. (10 m.) C. V. RILEY.

114, B. Engraved tablet from a mound in Ohio. (3 m.) W. J. KNOWLTON.

115, B. Antiquities of Onondaga County, New York. (15 m.) W. M. BEAUCHAMP.

116, B. Subsidence and erosion. (50 m.) A. S. TIFFANY.

117, B. Contribution to the life-history of the Phitoptidæ. (15 m.) . . . . W. A. BUCKHOUT.

118, B. Ethnology. (— m.) . . J. F. EVERHART.

119, B. The tertiary age of the iron ores of the lower silurian limestone valleys. (10 m.) H. C. LEWIS.

120, A. Note on the Zodiacal light. (10 m.) H. C. LEWIS.

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121, A. The Aurora and Zodiacal light of May 2, 1877. (5 m.) . . . . . H. C. LEWIS.

122, A. Discussion of the barometric observations of Prof. E. S. Snell, Amherst College. (30 m.) F. H. LOUD.

123, A. Optical properties of commercial starch and glucose. (20 m.) . . . . . H. W. WILEY.

124, A. A comparison of the spectra of light from limb and center of sun. (15 m.) . C. S. HASTINGS.

125, A. The valuation of indigo. (18 m.) L. M. NORTON.

126, A. A simple device for projecting vibrations of a liquid film without a lens. (5 m.) H. S. CARHART.

127, A. The chemical composition and nutritive values of fish. (30 m.) . . W. O. ATWATER.

128, A. The soil supply of nitrogen for plants. (10 m.) W. O. ATWATER.

129, A. Some new forms of apparatus. (10 m.) W. O. ATWATER.

130, A. The determination of phosphoric acid by the molybdic process. (10 m.) W. O. ATWATER.

131, A. The determination of sulphuric acid. (5 m.) W. O. ATWATER.

132, A. The determination of nitrogen by the hypobromite process. (8 m.) . W. O. ATWATER.

133, A. The quantitative determination of fats. (5 m.) W. O. ATWATER.

134, B. The endo-cranium and maxillary suspensorium of the bee. (20 m.) . . . . G. MACLOSKIE.

135, B. The Indian question. (20 m.) . D. A. LYLE.

136, B. Anatomy of the tongue in snakes and other reptiles, and in birds. Exhibition of sections. (12 m.) CHARLES SEDGWICK MINOT.

137, B. On the summation of muscular contractions. (15 m.) CHARLES SEDGWICK MINOT.

138, B. Notice of a complete bibliography on Plathelminths. (4 m.) . . CHARLES SEDGWICK MINOT.

(To be continued on Wednesday morning.)

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ASSIGNMENT OF ROOMS

IN THE

MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

Entrance Floor.

Local Committee,
Local Secretaries,
Permanent Secretary, } No. 6, — on the right.
Register,
Conversation Room,

Ladies' Room, No. 1,— on the left.

Express Packages,
Post Office, } No. 2,—on the right.
Telegraph office,

Reporters' Room, leading out of No. 2,— on the right.

Telephone at right of door, in Hall.

News Stand, in Hall.

Microscopy (Subsection D), Nos. 3 and 5,—on the left.

Natural History (Section B), No. 4,—on the right.

Standing Committee, } No. 7,— at end of Hall, on the left.
Sectional Committee of Section B,

Basement.

Chemistry (Subsection C), Chemical Lecture Room.

Second Floor.

General Sessions, } Huntington Hall
Section A,

Geology and Geography (Subsection F), No. 8,—west side.

Mathematics and Astronomy (Subsection H), No. 9,—west side.

Sectional Committee of Section A, No. 10,—front.

Anatomy and Physiology (Subsection G), No. 11,—east side.

Anthropology (Subsection E), No. 12,—east side.

Third Floor.

Entomological Club, No. 28,—front.

See also the plans on the three following pages.

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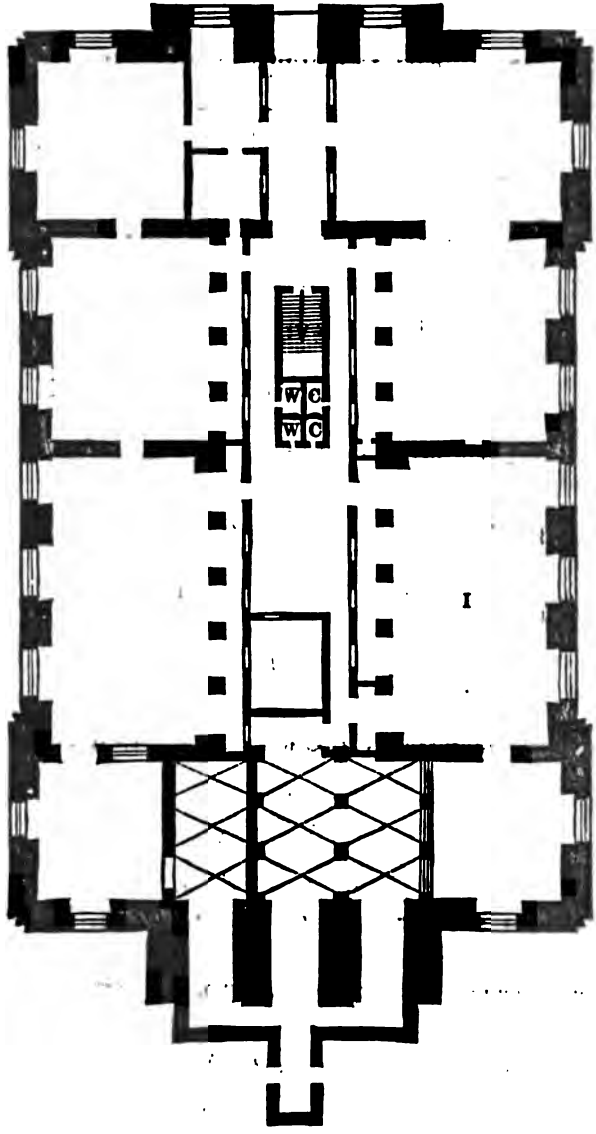
BASEMENT FLOOR.



I. Chemistry (Subsection C).

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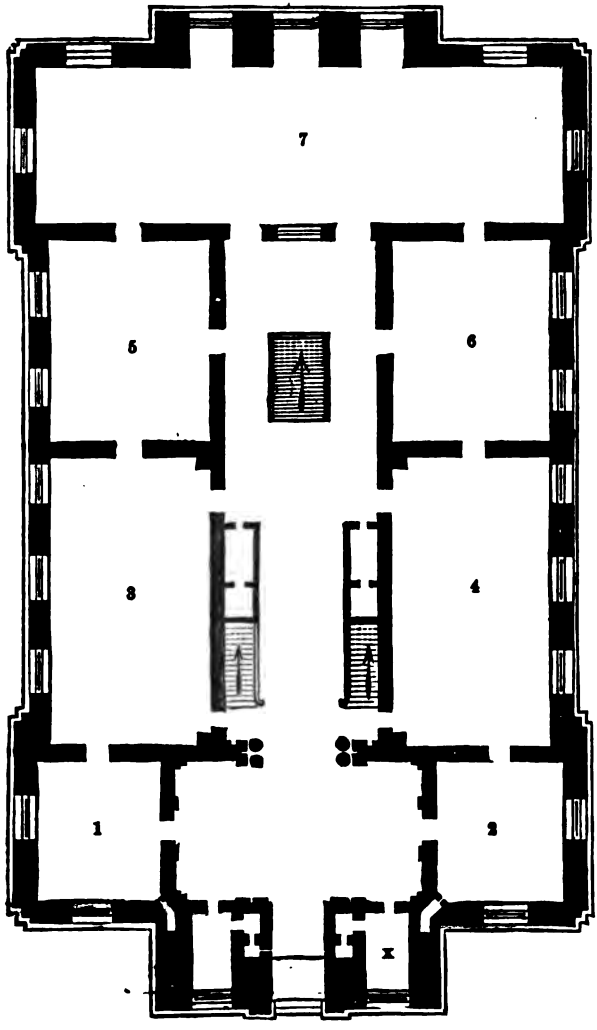
ENTRANCE FLOOR.



1. Ladies' room.
2. Post, Express, Telegraph, Reporters.
3. Microscopy (Subsection D).
4. Natural History (Section B).
5. Microscopy (Exhibition of Apparatus).
6. Permanent and Local Secretaries, Local Committees, Conversation Room
7. Standing Committee. Sectional Committee of Section B.

x. Telephone.

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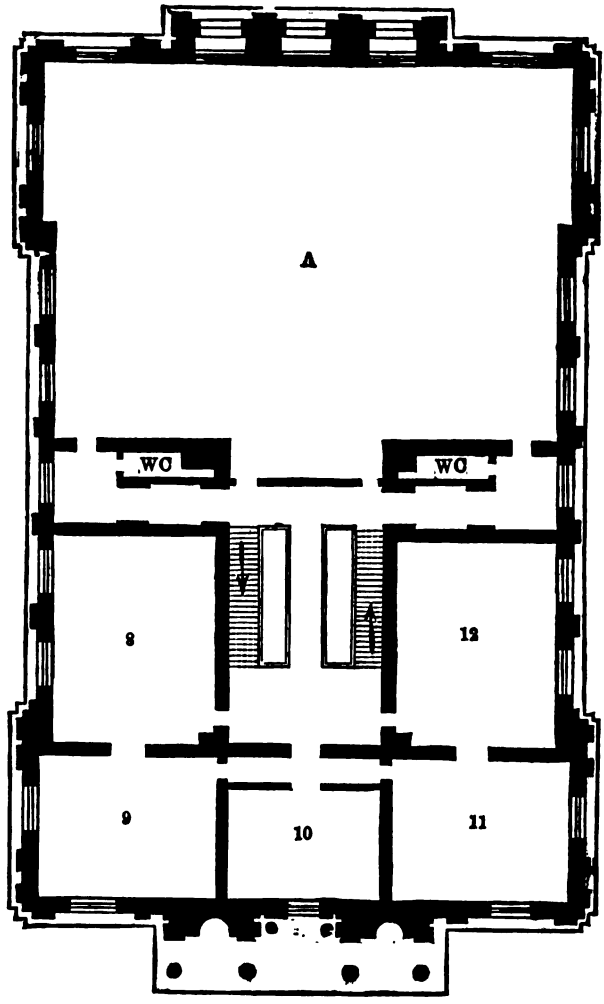
SECOND FLOOR.



A. Huntington Hall. General Sessions. Physics (Section A).
8. Geology and Geography (Subsection F).
9. Mathematics and Astronomy (Subsection H).
10. Sectional Committee of Section A.
11. Anatomy and Physiology (Subsection G).
12. Anthropology (Subsection E).

THIRD FLOOR. Entomological Club. Room 28.

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GENERAL PROGRAMME.

[Special programmes will be issued every morning.]

WEDNESDAY, AUGUST 25.

Morning.

Meeting of the Standing Committee, Room 7, at 9 o'clock.

Organization of the Meeting in GENERAL SESSION, at 10 o'clock, in Huntington Hall.

Meeting called to order by the Retiring President, Prof. GEORGE F. BARKER, of Philadelphia.

Resignation of the chair to the President elect, Hon. LEWIS H. MORGAN, of Rochester.

Invocation by the Rev. GEORGE E. ELLIS, D.D., of Boston.

Introductory remarks by WILLIAM B. ROGERS, LL.D., President of the Massachusetts Institute of Technology, Chairman of the Local Committee.

Welcome of the Association by the Hon. FREDERICK O. PRINCE, Mayor of the City of Boston, on behalf of the citizens of Boston.

Additional words of welcome from His Excellency JOHN D. LONG, Governor, in behalf of the Commonwealth.

Reply by President MORGAN.

Announcements by the GENERAL SECRETARY.

Notices of Deceased Members by the PERMANENT SECRETARY.

Election (by ballot after open nomination) of six Fellows to the Standing Committee.

Election of new members recommended by the Standing Committee.

Agreement on the hours of meeting. (The Standing Committee recommends that with the exception of Thursday, the morning sessions begin at 10 o'clock, and close at 1 o'clock;

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and that the afternoon sessions begin at 2½ o'clock, and close at 5 o'clock.)

Other general business.

Adjournment of the General Session and organization of the Sections and Subsections.

Section A.

Will remain in Huntington Hall.

Vice President,— Asaph Hall, of Washington.

Secretary,— Henry B. Nason, of Troy.

Election of three Fellows (by ballot, after open nomination), who, with the Vice President and Secretary of the Section and the Chairmen and Secretaries of the Subsections, shall form the Sectional Committee.

(The Standing Committee recommends Section A to form a subsection H, of Mathematics and Astronomy.)

Election of four Members or Fellows to the Nominating Committee.

C.—Permanent Subsection of Chemistry.

Will meet in the Chemical Lecture Room.

Chairman, John M. Ordway, of Boston.

Secretary, Charles E. Munroe, of Annapolis.

D.—Permanent Subsection of Microscopy.

Will meet in Room 3, first floor.

Chairman,— S. A. Lattimore, of Rochester.

Secretary,— A. B. Hervey, of Taunton.

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SECTION B.

Will meet in Room 4, first floor.

Vice President. — ALEXANDER AGASSIZ, of Cambridge.

Secretary,— C. V. RILEY, of Washington.

Election of three Fellows (by ballot, after open nomination), who, with the Vice President and Secretary of the Section and the Chairman and Secretaries of the Subsections, shall form the Sectional Committee.

(The Standing Committee recommends Section B to form a Subsection (F) of Geology and Geography, and a Subsection (G) of Anatomy and Physiology.)

Election of four Members or Fellows to the Nominating Committee.

E.—PERMANENT SUBSECTION OF ANTHROPOLOGY.

Will meet in Room 12, second floor.

Chairman,—J. W. POWELL, of Washington.

Secretary,—J. G. HENDERSON, of Winchester.

As soon as the above Sections and Subsections are organized they will report through their Secretaries to the General Secretary, and receive the papers assigned to the Sections by the Standing Committee.

The Sectional Committees will prepare their programmes for Friday (the first day on which papers will be read in Sections), so as to give them to the Permanent Secretary for printing on Wednesday night.

Afternoon.

Lunch at the Institute Gymnasium from 1–2½ o'clock.

SECTION A.

Address of the Vice President, ASAPH HALL, at 2½ o'clock, in Huntington Hall.

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SUBSECTION C, (Chemistry).

Address of the Chairman, JOHN M. ORDWAY, at 4 o'clock, in Huntington Hall.

SUBSECTION D, (Microscopy).

Address of the Chairman, S. A. LATTIMORE, at 4 o'clock, in Room 3, first floor.

SUBSECTION E, (Anthropology).

Address of the Chairman, J. W. POWELL, at 4 o'clock, in Room 4, first floor.

Evening.

Address of the Retiring President, GEORGE F. BARKER, at 7½ o'clock, in Huntington Hall.

Reception at the Museum of Fine Arts at 9 o'clock.

THURSDAY, AUGUST 26, — CAMBRIDGE DAY.

Morning.

[A special map of Cambridge, prepared by the Local Committee for distribution to members of the Association, will be found at the office of the Local Secretary, Room 6.]

Meeting of the Standing Committee at 9 o'clock, Room 7.

The West End horse cars, connecting with the Cambridge horse cars, will pass the corner of Berkeley and Boylston Sts. every few minutes, from 9 to 10½ o'clock.

GENERAL SESSION at 11 o'clock, in Sander's Theatre, Memorial Hall.

Election of Members and General business.

Eulogy of the late Professor JOSEPH HENRY, by ALFRED M. MAYER.

Adjournment of General Session.

Meeting of Section B.

Address of the Vice President, ALEXANDER AGASSIZ.

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Afternoon.

By invitation of the PRESIDENT and FELLOWS of HARVARD COLLEGE, the Association will dine in Memorial Hall, at 1½ o'clock. MARTIN BRIMMER, Esq., will preside at the table.

After dinner the Association will visit the Museum of Comparative Zoology, the Peabody Museum of Archæology and Ethnology, the Physical Laboratory, the Mineralogical Cabinet, the Chemical Laboratories, the Library, the Gymnasium, and other College Buildings and places of interest.

At 4 o'clock the Botanists will meet in the Lecture Room at the Botanic Garden, when Professor GRAY will read a paper on the Characteristics of the Rocky Mountain Vegetation; and Professor GOODALE will also offer a few remarks.

At the same hour Professor PICKERING will receive the Astronomers at the Observatory.

Also at the same hour, Mrs. T. P. JAMES will receive at her residence, 94 Brattle Street, such of the members as are interested in ceramics.

Evening.

Reception at the Botanic Garden at 5 o'clock. Tea at 6 o'clock.

Visit to the Observatory. (The Observatory grounds adjoin those of the Botanic Garden.)

Reception of the Association by Mr. and Mrs. ALEXANDER GRAHAM BELL, No. 150 Brattle Street, at 8½ o'clock.

Cars for Boston will leave from in front of Mr. Bell's residence, at 9½ to 11½ o'clock.

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FRIDAY, AUGUST 27.

Morning.

Meeting of the Standing Committee, at 9 o'clock.

General Session in Huntington Hall, at 10 o'clock.

Meetings of the Sections and Subsections directly after the adjournment of General Session.

Afternoon.

Association Lunch from 1 to 2½ o'clock.

Meetings of the Sections and Subsections, at 2½ o'clock.

Evening.

General Session in Huntington Hall. Paper by Alexander Graham Bell, at 7½ o'clock.

SATURDAY, AUGUST 28.

Morning.

Meeting of the Standing Committee at 9 o'clock.

General Session in Huntington Hall, at 10 o'clock.

Meetings of the Sections and Subsections.

Afternoon.

Association Lunch from 1 to 2½ o'clock.

By invitation of the City of Boston, the Association will make an excursion down the harbor. The steamer Empire State will leave Foster's Wharf at 2½ o'clock, returning to the city about 8 o'clock. A collation will be provided on board the steamer by the City Authorities.

Evening.

Meeting of the Nominating Committee at the Hotel Vendome at 9 o'clock.

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MONDAY, AUGUST 30.

Meeting of the Standing Committee at 9 o'clock.

GENERAL SESSION in Huntington Hall at 10 o'clock.

Election of Fellows.

Reports will be expected from the following

SPECIAL COMMITTEES.

1. *Permanent Committee on Weights, Measures, and Coinage.*

F. A. P. BARNARD, of New York, WILLIAM B. ROGERS, of Boston,
B. A. GOULD, of Boston, J. LAWRENCE SMITH, of Louisville,
J. E. HILGARD, of Washington, E. B. ELLIOTT, of Washington,
H. A. NEWTON, of New Haven, JOHN TROWBRIDGE, of Cambridge,
BENJAMIN PEIRCE, of Cambridge, A. M. MAYER, of Hoboken.

2. *Committee to Memorialize the Legislature of New York for a New Survey of Niagara Falls.*

F. A. P. BARNARD, of New York, G. W. HOLLEY, of Niagara Falls,
JAMES HALL, of Albany, J. T. GARDNER, of Albany.

3. *Committee to Memorialize Congress and State Legislatures regarding the Cultivation of Timber, and the Preservation of Forests.*

F. B. HOUGH, of Lowville, J. S. NEWBERRY, of Cleveland,
ASA GRAY, of Cambridge, L. H. MORGAN, of Rochester,
G. B. EMERSON, of Boston, CHAS. WHITTLESEY, of Cleveland,
J. D. WHITNEY, of Cambridge, W. H. BREWER, of New Haven,
E. W. HILGARD, of Berkeley.

4. *Committee on International Congress of Geologists.*

JAMES HALL, of Albany, T. STERRY HUNT, of Montreal,
WILLIAM B. ROGERS, of Boston, C. H. HITCHCOCK, of Hanover,
J. W. DAWSON, of Montreal, RAPHAEL PUMPELLY, of Owego,
J. S. NEWBERRY, of New York, J. P. LESLEY, of Philadelphia.

5. *Committee to Memorialize Congress in relation to the Yellowstone National Park.*

T. B. COMSTOCK, of Ithaca, GEO. M. WHEELER, of Washington,
O. C. MARSH, of New Haven, J. W. POWELL, of Washington,
CLARENCE KING, of New York.

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6. *Committee on the Relation of Science to the Industrial Arts.*

R. H. THURSTON, of Hoboken, J. T. WILDER, of Chattanooga,
J. M. SAFFORD, of Nashville, O. CHANUTE, of New York,
J. W. OSBORNE, of Washington.

7. *Committee to Memorialize Congress in relation to Meteorological Researches.*

ELIAS LOOMIS, of New Haven, G. HINRICHS, of Iowa City,
N. S. SHALER, of Cambridge, J. B. KILLEBREW, of Nashville,
J. W. OSBORNE, of Washington.

8. *Committee to obtain Permanent Funds for the Association, and to advise with Treasurer and Permanent Secretary on financial matters.*

WM. B. ROGERS, of Boston, LEWIS H. MORGAN, of Rochester,
J. LAWRENCE SMITH, of Louisville, ALEXANDER AGASSIZ, of Cambridge,
ROBERT H. THURSTON, of Hoboken.

9. *Committee on Membership.*

J. S. NEWBERRY, of New York, J. D. DANA, of New Haven,
SIMON NEWCOMB, of Washington, J. LAWRENCE SMITH, of Louisville,
WILLIAM B. ROGERS, of Boston, The GENERAL SECRTARY,
The PERMANENT SECRETARY.

10. *Committee on Science Teaching in the Public Schools.*

E. L. YOUMANS, of New York, J. W. POWELL, of Washington,
A. R. GROTE, of Buffalo, N. S. SHALER, of Cambridge,
J. S. NEWBERRY, of New York.

Meetings of the SECTIONS and SUBSECTIONS.

Afternoon.

Association Lunch, from 1 to 2 o'clock.

VISIT TO SALEM.

A special train furnished free to members by the kindness of the Eastern Railroad Company, will leave Boston at 2:40.

On arrival in Salem, the Association will be met at the Station by the Salem Committee, and conducted to the Essex Institute, the Peabody Academy of Science, the office of the Association, and other places of interest.

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At about five o'clock conveyances will be furnished to take the party from Plummer Hall, to Kernwood, where the Association will be received by S. ENDICOTT PEABODY, Esq. Returning, cars will leave Salem at about 8 o'clock.

By invitation of the Eastern Railroad Company, members of the Association are also invited to visit Cape Ann on Monday afternoon.

A Geological excursion will be made to Marblehead Neck on the same afternoon, and members desiring to accompany this party will be furnished with passes by the same Committee, through the favor of the same Railroad Company.

Members desiring to visit the Lowell factories on Monday afternoon, will be furnished with special information by the Excursion Committee.

TUESDAY, AUGUST 31.

Meeting of the Standing Committee at 9 o'clock.
GENERAL SESSION in Huntington Hall, at 10 o'clock.
Election of officers and agreement on place of meeting for 1881.
Meetings of the SECTIONS and SUBSECTIONS.

Afternoon.

Association Lunch from 1 to 2½ o'clock.
Meetings of the SECTIONS and SUBSECTIONS.

Evening.

Prof. A. HYATT will give a popular lecture on the transformations of Planorbis, — a practical illustration of the theory of the evolution of species, with stereopticon views; in Huntington Hall, at 7 o'clock.

Exhibition of Microscopes, accessory apparatus, and objects, under the auspices of the Section of Microscopy of the Boston Society of Natural History, at 8 o'clock, in the Institute of Technology. A collation will be served in the Institute.

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WEDNESDAY, SEPTEMBER 1.

Meeting of the Standing Committee at 9 o'clock.
GENERAL SESSION in Huntington Hall, at 10 o'clock.
Meetings of the SECTIONS and SUBSECTIONS.

Afternoon.

Association Lunch from 1 to 2½ o'clock.
Meetings of the SECTIONS and SUBSECTIONS.
Final adjournment of the Sections.

Evening.

GENERAL SESSION in Huntington Hall, at 8 o'clock.
Concluding exercises and ADJOURNMENT.

THURSDAY, SEPTEMBER 2.

Excursion to the White Mountains and Moosehead Lake.

Special information concerning these and other excursions will be given on the daily programmes.

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For rest of Programme see
L Soc 2681.215 (vol. 1)

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REPORT OF COMMITTEE A. A. A. S.

Second Report of the Committee on Standards of Stellar Magnitudes.

The first report of this Committee (*Proc. Amer. Assoc. XXX*, p. 1) included a plan for the determination of standards for stars fainter than the tenth magnitude. Twenty-four bright equatorial stars were chosen and the standards were to be selected from the regions following them from two to six minutes of time and not differing in declination from the leading stars by more than five minutes of arc. The observations described below have been made at the Harvard College Observatory unless otherwise stated. The light of each of the leading stars has been determined on from seven to eighteen nights with the meridian photometer. Charts have been constructed of all the stars visible with the fifteen inch telescope, in all but three of the regions from which the standards are to be selected. Most of these charts have been submitted to a careful scrutiny with the fifteen inch telescope of the Washburn Observatory. An important test of the completeness of the charts is thus afforded.

In the following table three successive columns give the names of the twenty-four leading stars and their approximate right ascensions and declinations for 1880. The next two columns give the number of nights on which they were observed with the meridian photometer, and the resulting magnitude. The details of these measures and a comparison with various other determinations of their light will be found in the *Harv. Observ. Annals*, Vol. XIV. The last columns give the number of stars in each of the charts, and the corresponding number of stars contained in the same portions of the Durchmusterung.

Stars suitable for standards must next be selected by the help of the charts. The light of these stars should then be measured in as many different ways as possible. The Committee will be much indebted for aid that may be rendered them in this portion of their work. The early publication of the charts now becomes a matter of importance, as it would permit their immediate use for various purposes.

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Name.	R. A. 1880.		Dec. 1880.		No. Nights.	Phot. Mag.	Stars on Chart.	D. M. Stars.
	h.	m.						
γ Pegasi	0	7.1	+ 14°	31′	13	3.04	49	3
θ′ Ceti	1	18.0	− 8	48	12	3.77	27	—
α Piscium	1	55.9	+ 2	11	12	3.99	—	1
α Ceti	2	56.0	+ 3	37	11	2.68	—	2
γ Eridani	3	52.4	− 13	51	10	3.05	30	—
α Tauri	4	29.0	+ 16	16	16	1.00	19	3
ε Orionis	5	30.1	− 1	17	16	1.76	42	6
γ Geminorum	6	30.8	+ 16	30	17	2.00	150	5
α Canis Minoris	7	33.0	+ 5	32	15	0.46	96	3
ε Hydrae	8	40.4	+ 6	51	7	3.58	64	4
α Leonis	10	2.0	+ 12	33	15	1.42	39	1
θ Leonis	11	7.9	+ 16	5	10	3.47	24	3
η Virginis	12	13.8	+ 0	0	10	4.05	23	2
α Virginis	13	18.9	− 10	32	13	1.23	30	—
α Bootis	14	10.2	+ 19	48	13	0.03	25	1
β Libræ	15	10.5	− 8	56	14	2.74	39	—
δ Ophiuchi	16	8.1	− 3	23	11	2.77	48	—
η Ophiuchi	17	3.5	− 15	34	10	2.62	100	—
η Serpentis	18	15.1	− 2	56	10	3.35	7	—
δ Aquilæ	19	19.4	+ 2	53	14	3.46	—	3
θ Aquilæ	20	5.1	− 1	11	10	3.39	110	2
β Aquarii	21	25.2	− 6	6	10	3.14	52	—
α Aquarii	21	59.6	− 0	54	10	3.16	48	0
α Pegasi	22	58.8	+ 14	34	18	2.61	29	3

Respectfully submitted,

Edward C. Pickering, Chairman.
Lewis Boss.
S. W. Burnham.
Asaph Hall.
William Harkness.
Edward S. Holden.
Simon Newcomb.
C. H. F. Peters.
Ormond Stone.
C. A. Young.

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American Association for the Advancement of Science.

OHIO MECHANICS INSTITUTE.

June 1st, 1881.

On the 17th of August, 1881, the American Association for the Advancement of Science will meet in Cincinnati. The meetings will continue for a week, and a very large attendance is expected.

" Gas Furnace, for Laboratory use.....Silver Medal.
" Display of Philosophical Apparatus, for School use.....Gold Medal.
" Display of Optical Apparatus.....Silver Medal.
" Display of Acoustic Apparatus.....Silver Medal.
" Display of Apparatus for Instruction in Mechanics.....Silver Medal.
" Display of Apparatus for Electric Measurement.....Silver Medal.
" Display of Thermometers.....Silver Medal.
" Display of Barometers and Aneroids.....Silver Medal.
" Display of Hygrometric Apparatus.....Honorable Mention.
" Saccharimeter.....Honorable Mention.
" Electrical Machine.....Silver Medal.
" Display of Compasses and Magnets.....Honorable Mention.
" Magic Lantern and Apparatus for Projection.....Silver Medal.
" Display of Magic Lantern Slides.....Honorable Mention.
" Display of Microscopes and Accessories.....Gold Medal.
" Microscopic Stand.....Honorable Mention.
" Microscopic Object Glass.....Honorable Mention.
" Microscopic Polarizing Apparatus.....Honorable Mention.
" Set of Microscope Slides, not less than fifty in number.....Silver Medal.

" System for Electric Lighting.....
" Dynamo-Electric Machine.....Silver Medal.
" Display of Electro-Plating Apparatus.....Silver Medal.
" Electric Gas-Lighting Apparatus.....Silver Medal.
" Electric Clock.....Silver Medal.
" Electric Engine for Motive Power, not less than One Horse Power, (in operation).....$50 00 Gold.
" Display of Globes.....Silver Medal.
" Display of Relief Maps.....Honorable Mention.
" Display of Apparatus for Science Teaching, Constructed from Inexpensive Materials, by a Teacher or Amateur Experimenter.....Silver Medal.
" Group of Stuffed Mammals.....Gold Medal.
" Group of Stuffed Birds.....Silver Medal.
" General Display of Fossils.....Silver Medal.
" General Display of Shells and Corals.....Silver Medal.
" General Display of Bird's Nests and Eggs.....Silver Medal.
" General Display of Rare Minerals.....Silver Medal.
" Series of Minerals put up for the Supply of Schools.....Silver Medal.

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such rates will soon be made, and members will be duly notified concerning them.

Notice of errors in the printed list of Members of the Association, of change of address, and information respecting the decease of Members, should be sent at once to the Permanent Secretary in order that due notice may be taken of the same in the next volume of "Proceedings." It is particularly requested that the Permanent Secretary be notified of any errors in the names and addresses that will be given immediately in the Boston volume, as a revised edition of the list will be printed for circulation at the Cincinnati meeting.

The Boston volume (vol. 29) will soon be distributed by mail to every member who has paid the assessment for the Boston meeting.

The volumes of the Proceedings of the Association can be obtained from the Permanent Secretary, at the price of $1.50 a volume; or any member wishing for ten or more volumes, in order to complete a set, may obtain them at $1.00 a volume. The volumes may be had bound in cloth for the extra price of 50 cts. each, or in one-half Turkey morocco for the extra price of $1.00 each. Uniform cloth covers for the volumes will be furnished by mail at 30 cts. each, or by express or at the meetings for 25 cts. each. Copies of Volumes 2, 26, and 27 will be received in exchange for other volumes or will be purchased at $1.00 each. These three volumes can only be furnished to Members, or on orders, as they are obtained.

The Memoir on Fossil Butterflies, by Mr. S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, 4to, 1875, will be furnished at $2.00 a copy. The Transactions of the Association of Geologists and Naturalists, 1 vol., 8vo, 1843, bound in cloth, can be obtained at $3.00 a copy.

At the Boston Meeting the Standing Committee called attention to the importance of reprinting several volumes of the Proceedings of the Association, but stated that this could not be done without the liberal assistance of members and others interested, and asked for subscriptions for this purpose. As full sets of the Proceedings are in demand, particularly in consequence of the late increase in membership, it is hoped that the sum of three thousand dollars will be secured for this purpose. The reprinting of three volumes is now desirable, and of two others only a small number of copies remain. Subscriptions of any amount are therefore earnestly solicited, and all such will be acknowledged by the *Permanent Secretary* by letter, and also in a printed list of subscribers.

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ART. 4. Fellows shall be nominated by the Standing Committee from such of the members as are professionally engaged in science, or have by their labors aided in advancing science. The election of fellows shall be by ballot and a majority vote of the members and fellows present in general session.

ART. 5. Any person paying to the Association the sum of one thousand dollars shall be classed as a Patron, and shall be entitled to all the privileges of a member and to all its publications.

ART. 7. The name of any member or fellow two years in arrears for annual dues shall be erased from the list of the Association, provided that two notices of indebtedness, at an interval of at least three months, shall have been given; and no such person shall be restored until he has paid his arrearages or has been reëlected.

ART. 33. The admission fee for members shall be five dollars in addition to the annual assessment. election of any member as a fellow an additional fee of two dollars shall be paid.

ART. 34. The annual assessment for members and fellows shall be three dollars.

ART. 35. Any member or fellow who shall pay the sum of fifty dollars to the Association, at become a Life Member, and as such shall be exempt from all further assessments, and shall be ceedings of the Association. All money thus received shall be invested as a permanent fund shall be used only to assist in original research, unless otherwise directed by unanimous vote mittee.

ART. 36. All admission fees and assessments must be paid to the Permanent Secretary shall give proper receipts for the same.

ART. 27. All members and fellows must forward to the Permanent Secretary, as early as pr ticable before the convening of the Association, full titles of all the papers which they pro the meeting, with a statement of the time that each will occupy in delivery, and also such a tents as will give a general idea of their nature; and no title shall be referred by the Standi Sectional Committee until an abstract of the paper or the paper itself has been received.

☞ (The receipt of a *Title of a Paper* simply, is not sufficient to secure its being placed on Papers received, and it is particularly requested that the abstracts be prepared *ready for prin* of Proceedings. Blank forms for giving the titles and abstracts of papers will be furnished Secretary on application. The Standing Committee particularly request, in order to facilitate of the programme, that the titles and abstracts should be forwarded so as to reach the Per *before August tenth*).

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...es will soon be made, and members will be duly notified concerning them.

On Transportation.—Col. W. L. O'Brien, *Chairman.*

On Hotels and Lodgings.—Mr. Herbert Jenney, *Chairman.*

On Rooms for Meetings.—Mr. William McAlpin, *Chairman.*

On Entertainments and Excursions.—Mr. George W. Jones, *Chairman.*

On Press and Printing.—Archer Brown, *Chairman.*

The above, with Rev. C. W. Wendte, and Robert Brown, Jr., form the *Executive Committee* of the Local Committee, which consists of over two hundred other gentlemen and ladies.

The Department of Science and Arts of the Ohio Mechanics Institute is arranging for a loan exhibition of scientific apparatus, appliances and collections, to be held in connection with the meeting of the Association. The display promises to be very large and interesting, and will be opened on the evening of August 16th.

The Annual Meeting of the Society for the Promotion of Agricultural Science will be held in Cincinnati on August 16th.

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OFFICERS OF THE

LOCAL COMMITTEE

FOR THE CINCINNATI MEETING.

HON. A. T. GOSHORN, *Chairman.*
MR. JULIUS DEXTER, *Treasurer.*

PROF. F. W. CLARKE (Address, Albion Place, Cincinnati, Ohio).
Prof. ORMOND STONE (Address, Mt. Lookout, Hamilton Co., Ohio). } *Secretaries.*

SUBCOMMITTEES.

On Reception.—Hon. J. D. Cox, *Chairman.*

On Finance.—MR. JULIUS DEXTER, *Chairman.*

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Respectfully,

A. T. Goshorn, *Chairman.*
F. W. Clarke, } *Secretaries.*
Ormond Stone, }
Julius Dexter, *Treasurer.*
J. D. Cox.
William McAlpin.
Herbert Jenney.
George W. Jones.
Archer Brown.
C. W. Wendte.
Robert Brown, Jr.
} *Executive Committee.*

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The Grand Hotel, on Fourth Street, has been selected as the headquarters of the Permanent Secretary and the Standing Committee. The following hotels offer reduced rates to members of the Association and their families.

NAME OF HOTEL.	CAN RECEIVE.	PRICE PER DAY.
Grand Hotel,	500–600	$3 00
Burnet House,	150	3 00
Gibson House,	350–400	2 50
Hotel Emery,	———	3 00
St. James Hotel,	50–75	2 00
Walnut St. House,	200	2 00
Crawford House,	100	1 50
Galt House,	200	1 50
Indiana House,	———	1 50

Members will do well to engage their rooms in advance, as there is every prospect of an unusually large attendance.

[illegible] reduced rates on Railroads have not yet been concluded

COMMITTEE ON TRANSPORTATION.

——————— *Chairman*, A. D. Bullock, E. V. Cherry, J. M. Doherty, J. J. Henderson, A. Hickenlooper, J. M. Kinney, J. O. Shiras.

COMMITTEE ON PRESS AND PRINTING.

Archer Brown, *Chairman*, O. P. Austin, W. L. Dudley, John Hagemann, Joseph James, Dr. F. W. Langdon, Leopold Markbreit, M. L. Hawkins, V. R. Shepard, Percy Procter, C. P. Taft, R. B. Warder, Henry Haacke.

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COMMITTEE ON ROOMS FOR MEETING.

William McAlpin, *Chairman*, Louis Ballauf, W. H. Bellows, E. R. Donohue, Charles Dury, R. H. Galbreath, Thomas Gilpin, F. W. Handy, L. M. Hosea, George Ward Nichols, Arthur Stem, A. G. Wetherby, W. C. Cochran.

COMMITTEE ON HOTELS AND LODGINGS.

Herbert Jenney, *Chairman*, Dr. S. C. Ayres, J. S. Conner, Alex. Hill, Thornton M. Hinkle, P. P. Lane, Nelson W. Perry, W. L. Robinson, W. H. Stewart.

COMMITTEE ON ENTERTAINMENTS AND EXCURSIONS.

George W. Jones, *Chairman*, A. L. Anderson, G. Bouscaren, R. M. Byrnes, A. B. Champion, Theodore Cook, Mrs. John Davis, Mrs. W. B. Davis, Mrs. William Henry Davis, Hermann Goepper, L. A. Harris, Mrs. A. J. Howe, M. E. Ingalls, G. B. Kerper, Mrs. John Kilgour, C. F. Low, P. F. Mohr, J. B. Peaslee, John Simpkinson, Mrs. Alphonso Taft, S. Lester Taylor, A. W. Whelpley, Mrs. Elkanah Williams, D. Gano Ray, Joseph Cox, S. F. Hunt.

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J. D. ELLIOTT, Secretary,
A. D. BULLOCK,
E. V. CHERRY,
J. M. DOHERTY,
J. J. HENDERSON,
A. HICKENLOOPER,
J. M. KINNEY,
J. O. SHIRAS.

Committee on Transportation.

Cincinnati, July 11, 1881.

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LOUISVILLE AND NASHVILLE RAILROAD COMPANY.

From local stations on line of this road tickets will be issued at one limited fare to Cincinnati, and return on certificate of the Secretary of the Association at one cent per mile.

LOUISVILLE AND CINCINNATI SHORT LINE.

LOUISVILLE, CINCINNATI AND LEXINGTON RAILWAY COMPANY,

Same arrangements as the Louisville and Nashville Railroad Company.

CINCINNATI, INDIANAPOLIS, ST. LOUIS AND CHICAGO RAILROAD COMPANY

Will sell special tickets at rate of 2 cts. per mile, from all local points on this road, on presentation of proper certificate, which will be furnished on application to the Local Secretary of the Association, Cincinnati.

OHIO AND MISSISSIPPI RAILWAY.

Will sell members return tickets from Cincinnati to any point on the road, at one-third the regular rates, upon presentation of certificate of the Secretary of the Association that the member paid full fare to Cincinnati over this road.

CINCINNATI SOUTHERN RAILWAY.

This company will extend the courtesy of half fare rates to members and their families. Members will pay full rates to Cincinnati, and, on certificate of Secretary of the Association, will be returned free.

W. L. O'BRIEN, Chairman,

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Concerning board and lodging, Mr. ALEXANDER HILL, 65 West Fourth Street.

Concerning any other matter not pertaining to the Permanent Secretary, address either of the Local Secretaries, Professor F. W. CLARKE, Albion Place, Cincinnati, Ohio; Professor ORMOND STONE, Mt. Lookout, Hamilton Co., Ohio.

N. B.—All communications concerning regular business of the Association, or papers to be presented at the meeting, must be addressed to the Permanent Secretary, Professor F. W. PUTNAM, whose address, after August 10th, will be GRAND HOTEL, *Cincinnati, Ohio.*

Respectfully,

A. T. GOSHORN, *Chairman.*

F. W. CLARKE, } *Secretaries.*
ORMOND STONE, }

JULIUS DEXTER, *Treasurer.*

J. D. COX.
WILLIAM MCALPIN.
HERBERT JENNEY.
GEORGE W. JONES.
ARCHER BROWN.
C. W. WENDTE.
ROBERT BROWN, Jr.
W. L. O'B[illegible]

} *Executive Committee.*

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TRANSPORTATION.

The following additional railway concessions have been secured since the date of local circular No. 4 on this subject.

THE NEW YORK, LAKE ERIE AND WESTERN RAILWAY CO.

will issue tickets at one limited fare-and-a-half for the round trip from points on the line of the road.

THE NEW YORK CENTRAL AND HUDSON RIVER RAILROAD CO.

will issue tickets same rates as N. Y., L. Erie and Western Railway Co.

"If any considerable number should desire to go from any particular station, a further reasonable reduction will be made from that point."

It is suggested to the members of the association that a like reduction may be secured on application to the other railroads.

The prices of tickets can not in all cases be given. In most cases full rates will be charged to Cincinnati, and the reductions made when returning, upon presenting proper credentials.

ADDRESS

Express parcels, physical instruments, etc., to Mr. J. O. SHIRAS, 13 West Fourth Street.

Concerning Microscopes and Accessory Apparatus, to Mr. ROBERT BROWN, JR., Fourth and Plum Streets.

Concerning railway facilities, to Col. W. L. O'BRIEN, 56 West Fourth Street.

Concerning hotel accommodations, either, directly, the hotels elected or, Mr. HERBERT JENNEY, corner Fourth and Walnut Streets.

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American Association for the Advancement of Science.

RECOMMENDATION TO MEMBERSHIP. *No* .....

CINCINNATI MEETING, AUGUST, 1881.

The undersigned recommend to Membership of the American Association for the Advancement of Science,

[Give Name in full.] .....

[Give Post-office Address, Town, County and State.] .....

.....

[Give any information thought desirable, as to profession, etc., of the person recommended.] .....

.....

[To be signed by two members or fellows of the Association.] .....

.....

Laid before the Standing Committee at its meeting

on .....

Action of the Committee, ...

.....

General Secretary.

If the person recommended is to be present at the meeting, write the word *present* in space under this.

NOTE.—Only *one person* is to be recommended on this blank. After filling out the blank it must be sent by mail to the PERMANENT SECRETARY before the meeting, or given to the GENERAL SECRETARY, at the meeting. The *General Secretary* will number the Blanks consecutively as received, and bring them before the *Standing Committee* for action at the next regular committee meeting after receipt. He will then endorse the action of the Committee on each blank, and give them to the *Permanent Secretary*. The names of members elected will be published in the daily programmes. New members, if present, are expected to call at the desk of the Permanent Secretary for their tickets. Copies of this blank will be furnished by the Permanent Secretary on application.—F. W. PUTNAM, *Permanent Secretary, Salem, Mass.*

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American Association for the Advancement of Science.

Cincinnati Meeting, August 17, 1881.

BLANK FOR TITLE AND ABSTRACT OF COMMUNICATION.

No. ..... *Section* ..... *Subsection* .....

Title of Paper:

Time ..... *Minutes.*

Name and address of author:

By instructions of the Standing Committee, Titles of papers *will not* be put on the list of papers offered unless abstracts are received. Authors will, therefore, please write their abstracts on the sheets containing the titles of their papers. The Committee also request that the titles and abstracts be sent to the *Permanent Secretary* at an early day, at least *one week before the meeting* when practicable. It is also particularly desired that the abstract be so prepared that it can be printed in the Proceedings of the meeting, should the paper be accepted by the Standing Committee for publication in that form.

Copies of this blank can be had of the *Permanent Secretary*. Address F. W. PUTNAM, *Permanent Secretary*, SALEM, MASS.

ABSTRACT OF PAPER ENTERED ABOVE:

[Continued over.

will pay full rates to Cincinnati, and, on certificate of Secretary of the Association, will be returned.

W. L. O'BRIEN, Chairman.

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American Association for the Advancement of Science.

CINCINNATI MEETING, AUGUST, 1881.

Cincinnati, [illegible] *1881.*

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Backer.

will pay full rates to Cincinnati, and, on certificate of Secretary of the Association, will be refunded free

W. L. O'BRIEN, Chairman.

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...rican association for the advancement of science. 22 19

PROGRAMME

OF THE

THIRTIETH MEETING

OF THE

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

AUGUST, 1881,

IN

CINCINNATI, OHIO.

CINCINNATI:
PUBLISHED BY THE LOCAL COMMITTEE.
1881.

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PROGRAMME

OF THE

THIRTIETH MEETING

OF THE

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

AUGUST, 1881,

IN

CINCINNATI, OHIO.

CINCINNATI:
PUBLISHED BY THE LOCAL COMMITTEE.
1881.

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1881. Aug. 26,

Geschenk

Prof. F. W. Putnam

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OFFICERS OF THE ASSOCIATION.

FOR THE

CINCINNATI MEETING.

President.

GEORGE J. BRUSH, of New Haven, Connecticut.

Vice President, Section A.

To be elected in place of PROF. MAYER, absent on account of sickness.

Vice President, Section B.

To be elected in place of DR. ENGELMANN, resigned on account of ill health.

Chairman of Permanent Subsection of Chemistry.

To be elected in place of PROF. NICHOLS, absent on account of sickness.

Chairman of Permanent Subsection of Microscopy.

A. B. HERVEY, of Taunton, Mass.

Chairman of Permanent Subsection of Anthropology.

GARRICK MALLERY, of Washington, D. C.

Chairman of Permanent Subsection of Entomology.

JOHN G. MORRIS, of Baltimore, Md.

Permanent Secretary.

F. W. PUTNAM, of Cambridge, Mass.

General Secretary.

C. V. RILEY, of Washington, D. C.

Secretary of Section A.

JOHN TROWBRIDGE, of Cambridge, Mass.

Secretary of Section B.

WILLIAM SAUNDERS, of London, Ontario.

Secretary of Permanent Subsection of Chemistry.

H. W. WILEY, of Lafayette, Ind.

Secretary of Permanent Subsection of Microscopy.

S. P. SHARPLES, of Boston, Mass.

Secretary of Permanent Subsection of Anthropology.

J. G. HENDERSON, of Winchester, Ill.

Secretary of Permanent Subsection of Entomology.

B. PICKMAN MANN, of Cambridge, Mass.

Treasurer.

WILLIAM S. VAUX, of Philadelphia, Pa.

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MEMBERS OF THE STANDING COMMITTEE

FOR THE

CINCINNATI MEETING.

Past Presidents.—JAMES D. DANA, of New Haven; JAMES HALL, of Albany; STEPHEN ALEXANDER, of Princeton; ISAAC LEA, of Philadelphia; F. A. P. BARNARD, of New York; J. S. NEWBERRY, of New York; B. A. GOULD, of Boston; T. STERRY HUNT, of Montreal; ASA GRAY, of Cambridge; J. LAWRENCE SMITH, of Louisville; JOSEPH LOVERING, of Cambridge; JOHN L. LE CONTE, of Philadelphia; J. E. HILGARD, of Washington; WILLIAM B. ROGERS, of Boston; SIMON NEWCOMB, of Washington; O. C. MARSH, of New Haven; GEORGE F. BARKER, of Philadelphia.

Officers of the Preceding Meeting.—LEWIS H. MORGAN, of Rochester; ASAPH HALL, of Washington; ALEXANDER AGASSIZ, of Cambridge; JOHN K. REES, of St. Louis; HENRY B. NASON, of Troy.

Officers of the Present Meeting.—THE PRESIDENT, VICE PRESIDENTS, PERMANENT AND GENERAL SECRETARIES, THE SECRETARIES OF SECTIONS A AND B, AND THE TREASURER.

From the Association at Large.—WILLIAM HARKNESS, of Washington; F. W. CLARKE, of Cincinnati; N. T. LUPTON, of Nashville; E. T. COX, of Oakland; O. T. MASON, of Washington; S. A. LATTIMORE, of Rochester.

The last six hold office only until the appointment of their successors, who are elected on Wednesday, August 25.

The Committee will meet on Tuesday, August 16, at 11 A. M. at the Grand Hotel, Parlor 102. Also at the same place at 9 A. M., on Wednesday, August 17.

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LOCAL COMMITTEE

FOR THE

CINCINNATI MEETING.

Executive Committee.

A. T. Goshorn. *Chairman:* F. W. Clarke, Ormond Stone, *Secretaries;* Julius Dexter, *Treasurer;* J. D. Cox, William McAlpin, Herbert Jenney, George W. Jones, Archer Brown, C. W. Wendte, Robert Brown, Jr., W. L. O'Brien, William Means.

Special Committees.

Committee on Reception.—J. D. Cox, *Chairman;* A. F. Perry, *Vice-Chairman;* A. E. Heighway, Jr., *Secretary;* Miss E. O. Abbott, Larz Anderson, John Bachman, G. K. Bartholomew, J. D. Brannan, Robert Brown, Jr., Mrs. Robert Brown, Jr., Dr. Gustav Bruhl, Dr. J. D. Buck, Pitts H. Burt, Dr. Julia Carpenter, V. T. Chambers, J. B. Chickering, H. F. Clark, Robert Clarke, Dr. Wm. Clendenin, Dr. C. G. Comegys, Dr. P. S. Conner, E. W. Coy, J. M. Crawford, C. H. Daniels, Dr. John Davis, Mrs. John Davis, Mrs. Wm. B. Davis, William Henry Davis, Mrs. William Henry Davis, Dr. W. W. Dawson, Parker Dickson, Mrs. William Dodd, S. W. Duncan, Fred. Eckstein, Jr., H. T. Eddy, Mrs. H. T. Eddy, James Eels, Sumner Ellis, Jacob Elsas, T. J. Emery, Mrs. T. J. Emery, L. J. Evans, Seth Evans, M. Fechheimer, Francis Ferry, Miss Fannie Field, Dr. C. D. Fishburn, Frank S. Fitch, Richard Folsom, M. F. Force, Mrs. M F. Force, Dr. F. Forchheimer, Julius Freiberg, W. H. French, Alex. Fries, Mrs. G.R. Fries, H. B. Furness, Mrs. R. H. Galbreath, Florien Glauque, John Goddard, Miss Emma Goepper, George S. Gray, Telford Groesbeck, W. S. Groesbeck, J. W. Hall, G. W. Harper, L. B. Harrison, J. M. Hart, Dr. A. E. Heighway, J. W. Herron, Mrs. J. W. Herron, J. S. Highlands, A. H. Hinkle, Russell Hinman, Mrs Wm. N. Hobart, J. M. Hodge, Dr. A. J. Howe, Mrs. A. J. Howe, Z. M. Humphrey, Mrs. Z. M. Humphrey, Dr. Geo. Hunert, Dr. J. H. Hunt, E. W. Hyde, John Kebler, Mrs. John Kebler, Dr. F. Kebler, A. T. Keckler, Dr. A. C. Kemper, Mrs. John Kilgour, Rufus King, Mrs. Rufus King, Thomas Kite, Miss Annie Laws, E. D. Ledyard, T. D. Lincoln, Mrs. T. D. Lincoln, H. P. Lloyd, Joseph Longworth, N. Longworth, H. L. Lord, Mrs. M. L. Nichols, G. W. Lasher, A. H. McGuffey, William McMaster, P. Mallon, William Means, C. W. Merrill, W. E. Merrill, John Mickleborough, H. Thane Miller, S. A. Miller, Ottmar v. Mohl, Paul Mohr, Dr. J. A. Murphy, Dr. W. H. Mussey, Miss Neave, N. Newburgh, J. M. Newton, Dr. O. D. Norton, R. H. Parkinson, E. H. Pendleton, Mrs. A. F. Perry, John T. Perry, H. W. Pohlmeyer, J. S. Zerbe, Henry Probasco, H. A. Ratterman, Edward Rawson, D. W. Rhodes, H. B. Ridgaway, Dr. F. Roelker, C. D Robertson, Mrs. R. S. Rust, Dr. Robert Sattler, W. W. Scarborough, J. G. Schaal, Lewis Seasongood, Dr. W. W. Seely, Murray Shipley, David Sinton, T. H. Skinner, Fayette Smith, Mrs. Harry R. Smith, R. R. Springer, J. B. Stallo, Mrs. Theo. Stanwood, Miss Helen G. Stewart, Mrs. Ormond Stone, C. R. Stuntz, Alphonso Taft, Mrs. Alphonso Taft, Dr. Jonathan Taft, Charles Turcke, W. H. Venable, William Vieth, J. M. Walden, Asa W. Waters, E. S. Wayne, J. W. Wayne, C. W. Wendte, C. W. West, Dr. J. T. Whittaker, Mrs. J. T. Whittaker, Mrs. H. C. Whitman, I. W. Wiley, Mrs. A. E. Wilde, Dr. E. Williams, Mrs. E. Williams, Davies Wilson, Mrs. Davies Wilson, M. F. Wilson, J. M. Wise, S. E. Wright.

Committee on Finance.—Julius Dexter, *Chairman;* Matthew Addy, B. Bettman, B. F. Brannan, Richard Dymond, A. L. Frazer, G. P. Griffith, C. H. Kellogg, Joseph Kinsey, Max Lilienthal, Alfred Springer, Theodore Stanwood.

Committee on Rooms for Meeting.—William McAlpin, *Chairmam;* Louis Ballauf, W. H. Bellows, E. R. Donohue, Charles Dury, R. H. Galbreath, Thomas Gilpin, F. W. Handy, L. M. Hosea, George Ward Nichols, Arthur Stem, A. G. Wetherby, W. C. Cochran.

Committee on Hotels and Lodgings.—Herbert Jenney, *Chairman:* Dr. S. C. Ayres, J. S. Conner, Alexander Hill, Thornton M. Hinkle, P. P. Lane, Nelson W. Perry, W. L. Robinson, W. H. Stewart, Dr. David DeBeck, Dr. Arthur Anker.

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Committee on Entertainments and Excursions.—George W. Jones, *Chairman;* A. Latham Anderson, Brent Arnold, Larz Anderson, Jr., G. Bouscaren, R. M. Byrnes, Albert Barney, A. H. Bugher, A. B. Champion, S. F. Covington, Joseph Cox, Briggs Cunningham, Jno. D. Caldwell, Theo. Cook, Dr. N. Pendleton Dandridge, Joseph Emery, Jas. I. Espy, A. C. Edwards, Francis Ferry, Seth C. Foster, Dr. F. Forchheimer, Marcus Fechheimer, Herman Goepper, Jas. M. Glenn, R. H. Galbreath, Samuel F. Hunt, L. A. Harris, Geo. Hafer, Thornton Hinkle, Geo. T. Harrison, A. E. Heighway, Chas. Holloway, M. E. Ingalls, N. Jeffras, Frank J. Jones, Edgar M. Johnson, Jno. Kilgour, Geo. B. Kerper, J. L. Keck, H. P. Lloyd, William Means, Leopold Markbreit, Dr. O. D. Norton, Jas. R. Murdoch, Henry Mulhauser, Paul F. Mohr, Geo. Moerlein, Dr. A. J. Miles, Dr. Wm. H. Mussey, Dr. Thos. L. Minor, Geo. Ward Nichols, Albert Netter, Jno. B. Peaslee, D. W. Rhodes, H. J. Stanley, C. J. W. Smith, Geo. T. Stedman, Dr. Robert Sattler, Daniel Stone, Jno. Simpkinson, S. Lester Taylor, W. W. Taylor, Dr. J. A. Thacker, Jacob Traber, Henry C. Urner, A. W. Whelpley, Dr. Elkanah Williams, Drausin Wulsin, L. C. Weir, Davies Wilson, Adolph Wood, Jas. S. Wise, M. Werk.

Committee on Transportation.—W. L. O'Brien, *Chairman:* A. D. Bullock, E. V. Cherry, J. M. Doherty, J. J. Henderson, A. Hickenlooper, J. M. Kinney, J. O. Shiras.

Committee on Press and Printing.—Archer Brown, *Chairman;* O. P. Austin, W. L. Dudley, John Hagemann, Joseph James, Dr. F. W. Langdon, Leopold Markbreit, M. L. Hawkins, V. R. Shepard, Percy Procter, C. P. Taft, R. B. Warder, Henry Haacke.

Sub-Committees of the Reception Committee.

Anthropology.—A. J. Howe, *Chairman;* H. A. Ratterman.

Archæology.—Gustav Bruhl, *Chairman;* Dr. John Davis

Chemistry.—E. S. Wayne, *Chairman;* Alex. Fries, H. B. Furness, C. W. Merrill, J. B. Stallo, C. R. Stuntz, W. H. Venable, William Vieth.

Geology.—Paul Mohr, *Chairman;* Robert Clarke, John Mickelborough, H. Thane Miller.

Microscopy.—Robert Brown, Jr., *Chairman.*

Dartmouth College Alumni.—C. W. Merrill, *Chairman;* G. K. Bartholomew, J. B. Chickering, Dr. P. S. Conner, Dr. W. H. Mussey, R. H. Parkinson, H. L. Lord, Asa W. Waters, Parker Dickson.

Harvard College Alumni.—Hon. M. F. Force, *Chairman;* J. D. Brannon, Fred. Eckstein, Jr., Russell Hinman, Dr. A. J. Howe, John Kebler, Dr. F. Kebler, Rufus King, N. Longworth, John T. Perry, Edward Rawson, C. W. Wendte, Davies Wilson.

Yale College Alumni.—Alphonso Taft, *Chairman;* Robert Brown, Jr., Pitts H. Burt, H. T. Eddy, George S. Gray, Dr. W. W. Seely.

Brown University Alumni.—E. W. Coy, *Chairman;* S. W. Duncan.

Amherst College Alumni.—Richard Folsom, *Chairman;* John Goddard, Z. M. Humphrey.

Princeton College Alumni.—Prof. J. M. Hart, *Chairman;* Telford Groesbeck: E. D. Ledyard.

Marietta College Alumni.—D. W. Rhodes, *Chairman;* Florien Giauque.

Other Western Colleges.—Dr. John Davis, *Chairman;* H. F. Clark (Oberlin); Larz Anderson (Kenyon); J. M. Crawford (Lafayette); H. T. Eddy (Cornell); Frank S. Fitch (Oberlin); W. S. Groesbeck (Oxford); Dr. A. E. Heighway (Oxford); J. W. Herron (Oxford); J. S. Highlands (Delaware); G. W. Lasher (Madison); M. F. Wilson (Oxford); I. W. Wiley; Dr. J. T. Whittaker (Oxford); Dr. Jonathan Taft (University of Michigan).

Clergymen.—Rev. Dr. J. Eels, *Chairman;* C. H. Daniels, Sumner Ellis, Seth Evans, Frank S. Fitch, W. H. French, H. W. Pohlmeyer, D. W. Rhodes, H. B. Ridgaway, J. G. Schaal, T. H. Skinner, J. M. Walden, I. W. Wiley, I. M. Wise.

Ladies' Committee.—Mrs. M. F. Force, *Chairman;* Mrs. E. O. Abbot, Dr. Julia Carpenter, Mrs. John Davis, Mrs. Wm. B. Davis, Mrs. Wm. Henry Davis, Mrs. Wm. Dodd, Mrs. T. J. Emery, Miss Fannie Field, Mrs. G. R. Fries, Mrs. R. H. Galbreath, Miss Emma Goepper, Mrs. J. W. Herron, Mrs. Wm. N. Hobart, Mrs. A. J. Howe, Mrs. Z. M. Humphrey, Mrs. John Kilgour, Mrs. Rufus King, Miss Annie Laws, Mrs. T. D. Lincoln, Miss Neave, Mrs. M. L. Nichols, Mrs. A. F. Perry, Mrs. R. S. Rust, Mrs. Harry R. Smith, Mrs. Theodore Stanwood, Miss Helen G. Stewart, Mrs. Ormond Stone, Mrs. Alphonso Taft, Mrs. H. C. Whitman, Mrs. J. T. Whittaker, Mrs. A. E. Wilde, Mrs. E. Williams, Mrs. Davies Wilson.

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Sub-Committees of the Committee on Entertainments and Excursions.

Excursion to Lookout Mountain.—G. Bouscaren, *Chairman;* Larz Anderson, Jr., C. J. W. Smith, Col. Geo. Ward Nichols, Briggs Cunningham, L. C. Weir, Dr. Thacker, Jacob Traber, Davies Wilson, Henry C. Urner, Seth C. Foster, Herman Goepper, Brent Arnold, Henry Mulhauser, Dr. N. P. Dandridge, Drausin Wulsin, Dr. A. E. Heighway, Alexander Hill.

Excursion to Zoological Gardens.—S. Lester Taylor, *Chairman;* George Hafer, N. Jeffras, Dr. R. Sattler, George Moerlein, Adolph Wood, Chas. Holloway, Daniel Stone, Dr. A. E. Heighway, Julius J. Bantlin, H. P. Lloyd, George Fisher.

Excursion to Public Buildings.—A. B. Champion, *Chairman;* Luther Parker, J. B. Peaslee, H. J. Stanley, Dr. O. D. Norton, A. C. Edwards, Dr. F. Forchheimer, R. H. Galbreath, John D. Caldwell, James S. Wise, G. H. Barbour, Dr. Wm. H. Mussey, J. R. Murdoch, Dr. Thomas C. Minor.

Excursion to Soldier's Home.—Hon. Samuel F. Hunt, *Chairman;* Col. L. A. Harris, Frank J. Jones, Leopold Markbreit, L. C. Weir, M. Werk, Edgar M. Johnson, James P. Espy, R. M. Byrnes, Thornton Hinkle.

Excursion to Madisonville.—Judge Joseph Cox, *Chairman;* S. F. Covington, A. J. Miles, John Kilgour, J. M. Glenn, C. L. Low, Paul F. Mohr, A. Latham Anderson, Dr. F. W. Langdon, Dr. G. Brühl, Dr. C. L. Metz, H. H. Hill, Florien Glauque, T. Cleneay.

Reception at Highland House.—George W. Jones, *Chairman;* A. B. Champion, Herman Goepper, H. C. Urner, George B. Traber, N. Jeffras, James P. Espy, Adolph Wood, Charles Holloway.

The entire committee will be present and co-operate with the committee of reception in making guests welcome.

Special Detail to Superintend Lunch on Wednesday, August 17.—George W. Jones, Gen. A. T. Goshorn, Julius Dexter, Prof. Ormond Stone, Prof. F. W. Clarke, Dr. Robert Sattler, Davies Wilson.

Special Detail to Superintend Lunch, Thursday, August 18.—Davies Wilson, G. H. Barbour, R. H. Galbreath, Dr. Wm. H. Mussey, Rev. D. W. Rhodes.

Special Detail to Superintend Lunch, Friday, August 19.—Adolph Wood, N. Jeffras, Daniel Stone, Dr. A. J. Miles, A. C. Edwards, Thornton Hinkle.

Special Detail of Committee of Entertainment to Superintend Lunch, Saturday, August 20.—Thornton Hinkle, Dr. A. J. Miles, James S. Wise, Jacob Traber, George Moerlein, C. J. W. Smith.

Special Detail of Committee of Entertainment to Superintend Lunch, Monday, August 22.—George W. Jones, John D. Caldwell, Judge Joseph Cox, Hon. Sam. F. Hunt, Col. George Ward Nichols, H. P. Lloyd.

Special Detail to Superintend Lunch, Tuesday, August 23.—Dr. O. D. Norton, Drausin Wulsin, Dr. William H. Mussey, Francis Ferry, Dr. Thomas C. Minor, Paul Mohr.

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ANNOUNCEMENT OF THE LOCAL SECRETARIES.

Members are requested to call and register their names at the office of the Local and Permanent Secretaries in the vestibule of the Music Hall, as soon as possible after their arrival. They are requested to enter separately each member of their families accompanying them. Each person so registered will receive a ribbon, stamped with the number against his or her name upon the register, and is requested to wear it during the meeting. This will greatly facilitate the arrangements upon excursions, at lunch, etc., besides having other advantages.

The present Programme states, as far as possible, with the exception of the papers to be read, the events of each day. The subsequent daily programmes will contain only what is necessarily omitted from this, including the order of papers at the session, list of members present, etc.

The Reception Committee will be generally on duty at the Grand Hotel on Wednesday, but after that its subdivisions will be each day represented at the Music Hall by details of the members, made by the chairmen. Members of the Local Committees will be designated by a smoke-colored badge.

The Western Union Telegraph Company will send, free of charge, telegrams relating to social or family matters, for all members in attendance upon the meetings.

Through the courtesy of the City and Suburban Telegraph Association, the rooms of the different Sections will be connected by telephones, and the papers in progress will be announced upon bulletin boards. A telephone connected with the Central Exchange will be found for the use of the members at the offices of the Secretaries.

The Association post-office will be found in the vestibule

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of the Music Hall, and mails will be delivered twice daily. Express packages may be delivered to the Local Secretaries.

A lunch for the members of the Association will be served each day in Horticultural Hall. The members will be required to obtain tickets for themselves and accompanying ladies at the office of the Local Secretaries. Other persons will be required to purchase tickets; and no one will be admitted without a ticket.

The reception of the Citizens' Local Committee to the members of the Association will be given at the Highland House on Thursday evening at 8 o'clock, August 18th. Annual membership tickets, or the cards of invitation, must be presented at the door, and will admit a member and lady. A concert by Currier's Band will commence at 8 o'clock. His Honor, the Mayor, will welcome the guests at nine o'clock; response by the President of the Association.

On the afternoon of Saturday, the 18th inst., the Association will visit the Cincinnati Zoological Garden. Full particulars will be issued later. The members individually are also invited to visit the Garden at their convenience.

An excursion has been arranged to Chattanooga and Lookout Mountain, over the Cincinnati Southern Railroad, to take place after the adjournment of the Association. Arrangements are also in progress for a visit to the Mammoth Cave, and for the Anthropological Section to examine the excavations in the pre-historic cemetery at Madisonville. Full details concerning these excursions will be published in future programmes.

A proposed excursion to the Soldiers' Home at Dayton is also under consideration.

The exhibition of scientific specimens and apparatus, on the third floor of the Exposition building, will be opened at noon on Wednesday. Each day thereafter it will be open from 9 A. M. to 6 P. M. Members of the Association can procure invitations from the Local Secretaries, without which no one will be admitted. This exhibition is a branch of the Ninth Cincinnati Industrial Exposition, opened in

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advance by the Commissioners out of courtesy to the Association. It was organized, however, at the suggestion of the Department of Science and Arts of the Ohio Mechanics' Institute, and all the preliminaries were arranged and much of the work carried out by a committee from that institution.

The Cincinnati Public Library on Vine street, between Sixth and Seventh streets, is open daily. The Young Men's Mercantile Library Association also extends the use of its reading-room and library, opposite the Gibson House on Walnut street, to members of the Association during the meetings. In both libraries may be seen daily papers from all parts of the United States.

The Museum of the Cincinnati Society of Natural History, 108 Broadway, is open daily, and members of the Association are cordially invited to visit it.

Members wishing to visit the Observatory will please confer with Professor Stone, in the office of the Local Secretaries.

A brief account of the more important institutions of the city, with a map, will be found as an appendix to this programme.

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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary (Vestibule, Music Hall,) as soon as possible after arrival, to register their names and receive their member's tickets and badges.

All assessments and admission fees must be paid to the Permanent Secretary, or to his Assistant.

A list of newly-elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for entering the Titles of Communications and for Recommendation of Members can be obtained at the office of the Permanent Secretary.

A Subscription Book for the Cincinnati volume will be opened at the office of the Permanent Secretary, and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50, or more, will receive a copy of the volume, by mail, as soon as published.

Back volumes of the Proceedings can be had at the office of the Permanent Secretary, at $1.50 per volume. Any member requiring ten or more volumes to complete his set, may obtain them at $1.00 a copy. (Vols. 26 and 27 are out of print.)

Copies of the Transactions of the Association of Geologists and Naturalists can be had for $3.00.

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Bound volumes of the Proceedings are furnished at the office of the Permanent Secretary, for $1.00 a volume extra, bound in one-half Turkey morocco; or 50 cents a volume extra (by mail 60 cents), bound in cloth. Uniform cloth covers for all the volumes can be had at 25 cents each (by mail 30 cents).

The Memoirs of the Association, No. 1, are furnished at $2.00 a copy, in paper covers, or for $3.50 bound in half Turkey morocco.

☞ The Boston Volume, of 875 pages, in two parts, was mailed, on the 1st of August, to every member who had paid the assessment for the Boston meeting.

Members paying back-assessments will be furnished with the volumes due them (except 26 and 27, which are out of print) at the time of making their payments.

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ANNOUNCEMENT OF THE STANDING COMMITTEE.

The Standing Committee particularly requests that after papers have been read authors will leave their MSS. with the Secretaries of the Sections and Subsections, in order that the papers may be referred at once to the Publication Committee for consideration.

The Committee also requests authors to condense their papers as much as possible. When an abstract can be given which will satisfactorily cover the substance of the paper, the Committee hopes that such will be left for publication in place of the paper in full. The rules of the Association require papers to be in the hands of the Permanent Secretary within one month after adjournment, but if authors will comply with the above request of the Committee much time and labor will be saved.

By vote of the Committee at the Saratoga Meeting, titles of papers will not be entered on the list of papers received unless accompanied by abstracts. *Papers cannot be received after Saturday noon, August* 20.

The Committee again calls attention to the fact that the increase of membership during the last two years, makes it important to reprint volumes 2 (Cambridge Meeting, 1849), 26 (Nashville Meeting, 1877), and 27 (St. Louis Meeting, 1878), of the Proceedings. Owing to the financial condition of the Association this cannot be done without liberal assistance on the part of the members and others interested. The Committee, therefore, hopes that all who feel able to do so will leave their contributions for this purpose at the office of the Permanent Secretary.

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ASSIGNMENT OF ROOMS IN THE MUSIC HALL.

Local Committee,
Local Secretaries,
Permanent Secretary,
Register,
Conversation Room,
Post Office and Express Packages,
Telephone,
News Stand,
} In the vestibule, 1st floor, main building.

Ladies' Room, south corridor, 2d floor.

Gentlemen's Room, north corridor, 2d floor.

General Session And Section A, } Large front room, 2d floor, north building.

Section B, Front, south side, 2d floor, main building.

Subsections of Entomology and Microscopy, (On alternate days) in front room, 2d floor, north building.

Subsection of Anthropology, rear room, 2d floor, Horticultural Hall.

Subsection of Chemistry, rear room, 1st floor, south corridor.

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GENERAL PROGRAMME.

[Special programmes will be issued every morning.]

WEDNESDAY, AUGUST 17.

Morning.

Meeting of the Standing Committee, Parlor 102, Grand Hotel, at 9 o'clock.

Organization of the Meeting in GENERAL SESSION, at 10 o'clock, in Music Hall.

Organ Voluntary by Mr. WINTHROP STERLING.

Meeting called to order by the President, Prof. GEORGE J. BRUSH, of New Haven.

Prayer by the Rev. Dr. JAMES EELS, of Cincinnati.

Welcome of the Association by General JACOB D. COX, Chairman of the Reception Committee.

Reply by President BRUSH.

Announcements by the GENERAL SECRETARY.

Notices of Deceased Members by the PERMANENT SECRETARY.

Election (by ballot, after nomination by the Standing Committee) of Vice Presidents of Sections A and B.

Election (by ballot, after open nomination) of six Fellows to the Standing Committee.

Election of new members recommended by the Standing Committee.

Agreement on the hours of meeting. (The Standing Committee recommends that the morning sessions begin at 10 o'clock, and close at 1 o'clock; and that the afternoon sessions begin at 2½ o'clock, and close at 5 o'clock.)

Other general business.

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Adjournment of the General Session and organization of the Sections and Subsections.

SECTION A.

Will meet in the large Front Hall, second floor, North Building.

Vice President—

Secretary—JOHN TROWBRIDGE, of Cambridge.

Election of three Fellows (by ballot, after open nomination), who, with the Vice President and Secretary of the Section and the Chairmen and Secretaries of the Subsections, shall form the Sectional Committee.

Election of four Members or Fellows to the Nominating Committee.

C.—PERMANENT SUBSECTION OF CHEMISTRY.

Will meet in the room at end of South Corridor, first floor.

Chairman—[To be elected.]

Secretary—H. W. WILEY, of Lafayette.

E.—PERMANENT SUBSECTION OF MICROSCOPY.

Will meet in the Front Room of the North Building, second floor.

Chairman—A. B. HERVEY, of Taunton.

Secretary—S. P. SHARPLES, of Boston.

SECTION B.

Will meet in the Southern Front Room of Main Building, second floor.

Vice President—

Secretary—WILLIAM SAUNDERS, of London, Ont.

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Election of three Fellows (by ballot, after open nomination), who, with the Vice President and Secretary of the Section and the Chairman and Secretaries of the Subsections, shall form the Sectional Committee.

Election of Four Members or Fellows to the Nominating Committee.

D.—PERMANENT SUBSECTION OF ANTHROPOLOGY.

Will meet in Large Room, second floor, of Horticultural Hall.

Chairman—GARRICK MALLERY, of Washington.

Secretary—J. G. HENDERSON, of Winchester.

F.—PERMANENT SUBSECTION OF ENTOMOLOGY.

Will meet in Section B room for organization, after Section B has adjourned. For the rest of the meeting it will alternate daily with the Subsection of Microscopy.

Chairman—JOHN G. MORRIS, of Baltimore.

Secretary—B. PICKMAN MANN, of Cambridge.

As soon as the above Sections and Subsections are organized, they will report through their Secretaries to the General Secretary, *and receive the papers assigned to the Sections by the Standing Committee.*

The Sectional Committees will prepare their programmes for Thursday, so as to give them to the Permanent Secretary for printing on Wednesday evening.

Afternoon.

Lunch in Horticultural Hall from 1 to 2½ o'clock.

SUBSECTION D (Anthropology).

Address of the Chairman, GARRICK MALLERY, at 3 o'clock, in Section A room.

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SUBSECTION F (Entomology).

Address of the Chairman, JOHN G. MORRIS, at 4:30 o'clock, in Section A room.

Evening.

At 8 o'clock, in the First Presbyterian Church, Fourth street, Capt. C. E. DUTTON'S paper on "The Excavation of the Grand Cañon of the Colorado River," will be given as a lecture, illustrated by lantern-pictures.

THURSDAY, AUGUST 18.

Morning.

Meeting of the Standing Committee, at 9 o'clock.

GENERAL SESSION at 10 o'clock, in Section A Room.

Election of Members and General Business.

Adjournment of General Session.

Meetings of the Sections and Subsections immediately after adjournment of General Session.

Afternoon.

Association Lunch from 1 to 2½ o'clock.

Meetings of the Sections and Subsections at 2½ o'clock.

Evening.

Citizens' Reception at the Highland House at 8 o'clock.

FRIDAY, AUGUST 19.

Morning.

Meeting of the Standing Committee, at 9 o'clock.

GENERAL SESSION in Section A Room, at 10 o'clock.

Meetings of the SECTIONS and SUBSECTIONS directly after the adjournment of General Session.

Afternoon.

Association Lunch from 1 to 2½ o'clock.

Meetings of the SECTIONS and SUBSECTIONS, at 2½ o'clock.

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Evening.

Meeting of Nominating Committee, at 9 o'clock, Grand Hotel, Parlor 102. (Unless otherwise determined.)

SATURDAY, AUGUST 20.

Morning.

Meeting of the Standing Committee, at 9 o'clock.

GENERAL SESSION in Section A room, at 10 o'clock.

Meetings of the SECTIONS and SUBSECTIONS.

Afternoon.

Association Lunch from 1 to 2½ o'clock.

Meetings of the SECTIONS and SUBSECTIONS at 2½ o'clock.

Evening.

Visit to the Zoological Garden.

MONDAY, AUGUST 22.

Meeting of the Standing Committee, at 9 o'clock.

GENERAL SESSION in section A room, at 10 o'clock.

Action on the proposed amendments to the Constitution.

Election of Fellows.

Election of Officers, and agreement on place of meeting for 1882.

Reports will be expected from the following

SPECIAL COMMITTEES.

1. *Permanent Committee on Weights, Measures, and Coinage.*

F. A. P. BARNARD, of New York,
B. A. GOULD, of Boston,
J. E. HILGARD, of Washington,
H. A. NEWTON, of New Haven,
WILLIAM B. ROGERS, of Boston,
J. LAWRENCE SMITH, of Louisville,
E. B. ELLIOTT, of Washington,
JOHN TROWBRIDGE, of Cambridge.
A. M. MAYER, of Hoboken.

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2. *Committee to Memorialize the Legislature of New York for a New Survey of Niagara Falls.*

F. A. P. BARNARD, of New York, G. W. HOLLEY, of Niagara Falls,
JAMES HALL, of Albany, J. T. GARDNER, of Albany.

3. *Committee on the Relation of Science to the Industrial Arts.*

R. H. THURSTON, of Hoboken, J. T. WILDER, of Chattanooga,
J. M. SAFFORD, of Nashville, O. CHANUTE, of New York,
J. W. OSBORNE, of Washington.

4. *Committee to obtain Permanent Funds for the Association, and to advise with the Treasurer and Permanent Secretary on financial matters.*

WM. B. ROGERS, of Boston, LEWIS H. MORGAN, of Rochester,
J. LAWRENCE SMITH, of Louisville, ALEXANDER AGASSIZ, of Cambridge.
ROBERT H. THURSTON, of Hoboken.

5. *Committee on Membership.*

J. S. NEWBERRY, of New York, J. D. DANA, of New Haven,
SIMON NEWCOMB, of Washington, J. LAWRENCE SMITH, of Louisville,
WILLIAM B. ROGERS, of Boston, The GENERAL SECRETARY,
The PERMANENT SECRETARY.

6. *Committee on the best methods of Science Teaching in the Public Schools.*

E. L. YOUMANS, of New York, J. W. POWELL, of Washington,
A. R. GROTE, of New York, N. S. SHALER, of Cambridge,
J. S. NEWBERRY, of New York, N. T. LUPTON, of Nashville.

7. *Committee on the Registration of Deaths, Births, and Marriages.*

E. B. ELLIOTT, of Washington, F. B. HOUGH, of Lowville,
J. B. KILLEBREW, of Nashville, J. S. COPES, of New Orleans,
E. T. COX, of Oakland, JOHN COLLETT, of Indianapolis.

8. *Committee on Standard Time.*

ORMOND STONE, of Mt. Lookout, LEWIS BOSS, of Albany,
S. P. LANGLEY, of Allegheny, LEONARD WALDO, of New Haven
E. C. PICKERING, of Cambridge, J. K. REES, of St. Louis,
J. R. EASTMAN, of Washington, G. W. HOUGH, of Lowville,
H. S. PRITCHETT, of Glasgow.

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9. *Committee on Stellar Magnitudes.*

E. C. Pickering, of Cambridge,
Lewis Boss, of Albany,
S. W. Burnham, of Washington,
Asaph Hall, of Washington,
William Harkness, of Washington,
E. S. Holden, of Ann Arbor,
Simon Newcomb, of Washington,
C. H. F. Peters, of Clinton,
Ormond Stone, of Mt. Lookout,
C. A. Young, of Princeton.

Meetings of the Sections and Subsections.

Afternoon.

Association Lunch from 1 to 2½ o'clock.
Meetings of Sections and Subsections at 2½ o'clock.

Evening.

Prof. H. C. Bolton's paper on "Alchemy, the Cradle of Chemistry," will be given as a lecture, illustrated by lantern pictures, at 8 o'clock, in the First Presbyterian Church.

TUESDAY, AUGUST 23.

Morning.

Meeting of Standing Committee, at 9 o'clock.
General Session in section A room, at 10 o'clock.
Meetings of the Sections and Subsections.

Afternoon.

Association Lunch from 1 to 2½ o'clock.
Meetings of the Sections and Subsections at 2½ o'clock.

Evening.

General Session in section A room, at 8 o'clock.
Concluding exercises and
Adjournment.

WEDNESDAY, AUGUST 24.

Excursions to Lookout Mountain, Mammoth Cave, and the Soldiers' Home at Dayton.

Special information concerning these and other excursions will be given on the daily programmes.

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TITLES OF PAPERS.

ENTERED UP TO AUGUST 15, 1881,

FOR THE

CINCINNATI MEETING.

(The letter following the number shows the Section (but not the Subsection) to which the paper belongs.)

1, A. Magnetic survey of Missouri. (10 m.)
FRANCIS E. NIPHER.

2, A. On the effect of prolonged stress upon the strain in timber. (10 m.) . . . R. H. THURSTON.

3, A. Numerical elements of the orbits of the seven Electrical Vortices, to whose motions atmospheric storms are principally due, with the processes by which they have been derived, and examples given of the application of the formula by which their positions on the surface of the earth can be computed for any given time. (25 m.)
THOMAS BASSNETT.

4, A. Universal Energy of light. (10 m.)
PLINY EARL CHASE.

5, A. A new system of interest, discounts, etc. (10 m.)
JAMES W. ROBINSON.

6, A. The constitution of the "Atom" of science. (30 m.) . . . MRS. A. B. BLACKWELL.

7, B. Cañons, as I have seen them, with some thoughts as to their origin (20 m.) . . WM. BROSS.

8, B. The unification of geological nomenclature. (35 m.) . . . . . RICHARD OWEN.

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9, B. Recent discoveries, measurements, and temperature observations made in Mammoth Cave, Ky. (30 m.) . . . . . H. C. HOVEY.

10, A. A remarkable case of retention of heat by the Earth. (8 m.) . . . . . H. C. HOVEY.

11, A. Coal dust as an element of danger in mining; shown by the late explosion in the Albion Mines, in Nova Scotia. (20 m.) . . H. C. HOVEY.

12, A. The successful administration of nitrous-oxide for dental and surgical operations. (15 m.) C. P. HOWLAND.

13, A. An Iso-picraminic acid. (30 m.) CHARLES W. DABNEY, JR.

14, A. Development of Sugar in Maize and Sorghums. (15 m.) . . . . . PETER COLLIER.

15, B. A revision of the anatomy of the ethmoid bone in the mammalia. (20 m.) . HARRISON ALLEN.

16, B. The life unit in plants. (15 m.) BYRON D. HALSTED.

17, B. On Bopyrus manhattensis from the gill-cavity of Palæmonetes vulgaris Stimpson. (8 m.) CARL F. GISSLER.

18, B. The uncivilized mind in the presence of higher phases of civilization. (40 m.) OTIS T. MASON.

19, B. The stone images and idols of the mound-builders. (20 m.) . . . . . WM. MCADAMS.

20, B. Some remarkable relics from mounds in Illinois. (10 m.) . . . . . WM. MCADAMS.

21, B. Stone implement showing glacier marks. (10 m.) WM. MCADAMS.

22, B. The occurence of Cretaceous fossils near mouth of Illinois river. (5 m.) . . WM. MCADAMS.

23, B. Mound-builders' skeletons. (10 m.) WATSON C. HOLBROOK.

24, B. Stone implements in the drift. (10 m.) WATSON C. HOLBROOK.

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25, B. Prehistoric hieroglyphics. (10 m.)
WATSON C. HOLBROOK.

26, A. A contribution to Croll's theory of secular climatal changes. (25 m.) . . W. J. MCGEE.

27, B. Influence of forests upon streams. (30 m.)
DAVID D. THOMPSON.

28, A. Alchemy, the cradle of Chemistry. Illustrated by lantern views. (75 m.) H. CARRINGTON BOLTON.

29, A. The great primordial force. (40 m.)
H. R. ROGERS.

30, A. "Mixed" or "New Process" sugars. With methods and results of analyses. (10 m.)
H. W. WILEY.

31, A. Amylose. Its nature and method of manufacture. Its optical properties. (10 m.) H. W. WILEY.

32, A. Relation of reducing power as measured by Fehling's solution to the rotatory power of commercial glucose and grape sugar. Second paper. (5 m.) . . . . . H. W. WILEY.

33, A. On a new material suitable for stop-cocks and stoppers for reagent bottles. (3 m.) H. W. WILEY.

34, A. The stereoscope, and vision by optic divergence. (30 m.) . . . W. LE CONTE STEVENS.

35, A. The nitrogenous constituents of grasses. (15 m.)
CLIFFORD RICHARDSON.

36, A. Mineralogical Notes. (15 m.) BENJAMIN SILLIMAN.

37, B. On the influence of the structure of the nerve-fibres upon the production and conduction of nerve-force. (80 m.) . . . H. D. SCHMIDT.

38, B. The recurrence of faunas in the Devonian Rocks of New York. (45 m.) . H. S. WILLIAMS.

39, B. Note on some Fish remains from the Upper Devonian of New York. (15 m.) H. S. WILLIAMS.

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40, B. Note on specimens of Ptilophyton and associated fossils collected by Dr. H. S. Williams, in the Chemung Shales of Ithaca, N. Y. (5 m.)
J. W. DAWSON.

41, A. Composition and quality of American Wines. (15 m.) . . . HENRY B. PARSONS.

42, A. On Dibromiodacrylic and Chlorbromiodacrylic Acids. (30 m.)
C. F. MABERY and RACHEL LLOYD.

43, A. On Chlortribrompropionic Acid. (10 m.)
C. F. MABERY and H. C. WEBER.

44, A. Alhazen's Problem: its history and bibliography, together with various solutions of it. (10 m.)
MARCUS BAKER.

45, A. Is the law of repetition the Dynamic Law underlying the Science of Chemistry? (16 m.)
MISS VIRGINIA K. BOWERS.

46, A. A study of blood during a protracted fast. (20 m.)
LESTER CURTIS.

47, A. A contribution to the study of Bacterial Organisms, and commonly found on exposed mucus surfaces, and in the alimentary canal of healthy individuals. (20 m.) . . . GEO. M. STERNBERG.

48, A. Suggestions for improvement in the manufacture of glass, and new methods for the construction of large telescopic lenses. (12 m.)
G. W. HOLLEY.

49, A. On the electrical resistance and the coëficient of expansion of incandescent platinum. (10 m.)
E. L. NICHOLS.

50, A. On recent deep-sea soundings in the Gulf of Mexico and Caribbean Sea, by the U. S. Coast Survey. (15 m.) . . . . . J. E. HILGARD.

51, A. Symmetrical method of Elimination in Simple Equations, by the use of some of the principles of Determinants. (20 m.) . JAS. D. WARNER.

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52, A. A Musical Local-telegraph alphabet. (5 m.)
WILLIAM BOYD.

53, A. An Improved Sonometer. (15 m.)
W. LE CONTE STEVENS.

54, A. A new and improved freezing Microtome. (15 m.)
THOMAS TAYLOR.

55, A. A new and Improved Freezing apparatus for use in Surgical and Dental Practice, being a substitute for the ether spray. (15 m.)
THOMAS TAYLOR.

56, A. Bacteria and Micrococci, and their relations to plant culture. (15 m.) . . THOMAS TAYLOR.

57, A. Electricity, Magnetism, Gravitation. Their phenomena considered as the manifestation of one force. (20 m.) . . . S. S. PARSONS.

58, B. The Berea Grit of Ohio. (30 m.) EDWARD ORTON.

59, B. The Gold-bearing drift of Indiana. (30 m.)
GEO. SUTTON.

60, B. On the amount of Glacial erosion in Ohio, Indiana, and Illinois, with some deductions therefrom. (60 m.) . . . . . E. W. CLAYPOLE.

61, B. On the Discovery of an Archemediform Tenestellid in the Upper Silurian Rocks of Ohio. (30 m.)
E. W. CLAYPOLE.

62, B. Life-history of the Buckeye Stem-borer. *Sericoris instrutana* Clem. (30 m.) . E. W. CLAYPOLE.

63, B. Some needed reforms in the use of Botanical Terms. (12 m.) . . . CHARLES E. RIDLER.

64, B. Digital differentiation. (20 m.) . A. J. HOWE.

65, B. The excavation of the Grand Cañon of the Colorado River. (75 m.) . . C. E. DUTTON.

66, B. On the cause of the Arid climate of the Far West. (15 m.) . . . . . C. E. DUTTON.

67, B. Evolution and its place in Geology. (45 m.)
EDWARD S. EDMUNDS.

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68, B. A Short study of the Features of the Region of Lower Great Lakes, during the Great River Age; or notes on the Origin of the Great Lakes of North America. (50 m.) . . J. W. SPENCER.

69, B. On the inhabitants of N. E. Siberia, commonly called Chukchis and Namollo. (15 m.) W. H. DALL.

70, B. A Lawgiver of the Stone Age. (35 m.) HORATIO HALE,

71, B. *Ilex cassine*, the Black Drink of the Southern Indians. (40 m.) . . JOHN G. HENDERSON.

72, B. Was the antelope hunted by the Indians on the prairies of Illinois? (15 m.) JOHN G. HENDERSON.

73, B. Agriculture and agricultural Implements of the Ancient Inhabitants of the Mississippi Valley. (35 m.) JOHN G. HENDERSON.

74, B. Houses of the Ancient Inhabitants of the Mississippi Valley. (20 m.) . JOHN G. HENDERSON.

75, B. Comparative Differences in the Iroquois Group of Dialects. (15 m.) . MRS. ERMINNIE A. SMITH.

76, B. Typical thin sections of the rocks of the cupriferous series in Minnesota. (20 m.) N. H. WINCHELL.

77, B. The limited biological importance of synthetic achievements in Organic Chemistry. (15 m.) ALBERT B. PRESCOTT.

78, B. On a mesal cusp of the deciduous mandibular canine of the domestic cat, Felis domestica. (2 m.) BURT G. WILDER.

79, B. Remarks on the Classification and Distribution of Producti. (25 m.) . . S. H. TROWBRIDGE.

80, A. Note on a comparison of Newcomb's Tables of Uranus and Neptune, with those of the same planets by Le Verrier. (10 m.) . D. P. TODD.

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81, A. The Saroscope: Register of eclipses traced from Eden's prime 3939 B. C. (30 m.)
A. W. BROWN.

82, A. Pentachloramyl formate. (8 m.)
ALFRED SPRINGER.

83, A. On the features of Equivalence to Chemical Elements, shown by electricity and heat. (15 m.)
SAMUEL J. WALLACE.

84, A. On a sign of logical connection in Equations. (5 m.) . . . . SAMUEL J. WALLACE.

85, A. On an abbreviation in writing a long series of figures, and its use in calculations. (5 m.)
SAMUEL J. WALLACE.

86, B. Retarded Development in Insects. (8 m.)
C. V. RILEY.

87, B. New Insects Injurious to American Agriculture. (8 m.) . . . . . C. V. RILEY.

88, B. The Egg-case of Hydrophilus triangularis. (5 m.)
C. V. RILEY.

89, B. On the Oviposition of Prodoxus decipieus. (5 m.)
C. V. RILEY.

90, B. The Cocoon of Gyrinus. (5 m.) . C. V. RILEY.

91, B. Ozark Highlands. (30 m.) . . G. C. SWALLOW.

92, B. On the disposition of color—markings of domestic animals. (10 m.) . . WM. H. BREWER.

93, B. On the ancient Japanese bronze belts. (10 m.)
EDW. S. MORSE.

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American Association for the Advancement of Science

THURSDAY, AUGUST 18.

OFFICERS OF THE ASSOCIATION.

FOR THE

CINCINNATI MEETING.

President.

GEORGE J. BRUSH, of New Haven, Connecticut.

Vice President, Section A.

WILLIAM HARKNESS, of Washington, D. C.

Vice President, Section B.

E. T. COX, of San Francisco, Cal.

Chairman of Permanent Subsection of Chemistry.

G. C. CALDWELL, of Ithaca, N. Y.

Chairman of Permanent Subsection of Microscopy.

A. B. HERVEY, of Taunton, Mass.

Chairman of Permanent Subsection of Anthropology.

GARRICK MALLERY, of Washington, D. C.

Chairman of Permanent Subsection of Entomology.

JOHN G. MORRIS, of Baltimore, Md.

Permanent Secretary.

F. W. PUTNAM, of Cambridge, Mass.

General Secretary.

C. V. RILEY, of Washington, D. C.

Secretary of Section A.

E. T. TAPPAN, of Gambier, O.

Secretary of Section B.

WILLIAM SAUNDERS, of London, Ontario.

Secretary of Permanent Subsection of Chemistry.

ALFRED SPRINGER, Cincinnati, O.

Secretary of Permanent Subsection of Microscopy.

W. H. SEAMAN, of Washington, D. C.

Secretary of Permanent Subsection of Anthropology.

J. G. HENDERSON, of Winchester, Ill.

Secretary of Permanent Subsection of Entomology.

B. PICKMAN MANN, of Cambridge, Mass.

Treasurer.

WILLIAM S. VAUX, of Philadelphia, Pa.

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MEMBERS OF THE STANDING COMMITTEE

FOR THE

CINCINNATI MEETING.

Past Presidents.—JAMES D. DANA, of New Haven; JAMES HALL, of Albany; STEPHEN ALEXANDER, of Princeton; ISAAC LEA, of Philadelphia; F. A. P. BARNARD, of New York; J. S. NEWBERRY, of New York; B. A. GOULD, of Boston; T. STERRY HUNT, of Montreal; ASA GRAY, of Cambridge; J. LAWRENCE SMITH, of Louisville; JOSEPH LOVERING, of Cambridge; JOHN L. LE CONTE, of Philadelphia; J. E. HILGARD, of Washington; WILLIAM B. ROGERS, of Boston; SIMON NEWCOMB, of Washington; O. C. MARSH, of New Haven; GEORGE F. BARKER, of Philadelphia.

Officers of the Preceding Meeting.—LEWIS H. MORGAN, of Rochester; ASAPH HALL, of Washington; ALEXANDER AGASSIZ, of Cambridge; JOHN K. REES, of St. Louis; HENRY B. NASON, of Troy.

Officers of the Present Meeting.—THE PRESIDENT, VICE PRESIDENTS, PERMANENT AND GENERAL SECRETARIES, THE SECRETARIES OF SECTIONS A AND B, AND THE TREASURER.

From the Association at Large.—F. W. CLARKE, of Cincinnati; A. H. TUTTLE, of Columbus; E. S. MORSE, of Salem; W. H. DALL, of Washington; H. C. BOLTON, of Hartford; T. C. MENDENHALL, of Columbus.

The Committee will meet at the Grand Hotel, Parlor 102, 9 A. M. each day.

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ANNOUNCEMENT OF THE LOCAL SECRETARIES.

Members are requested to call and register their names at the office of the Local and Permanent Secretaries in the vestibule of the Music Hall, as soon as possible after their arrival. They are requested to enter separately each member of their families accompanying them. Each person so registered will receive a ribbon, stamped with the number against his or her name upon the register, and is requested to wear it during the meeting. This will greatly facilitate the arrangements upon excursions, at lunch, etc., besides having other advantages.

The Reception Committee will be represented at the Music Hall by details of the members, made by the chairmen. Members of the Local Committees will be designated by a smoke-colored badge.

The Western Union Telegraph Company will send, free of charge, telegrams relating to social or family matters, for all members in attendance upon the meetings.

Through the courtesy of the City and Suburban Telegraph Association, the rooms of the different Sections will be connected by telephones, and the papers in progress will be announced upon bulletin boards. A telephone connected with the Central Exchange will be found for the use of the members at the offices of the Secretaries.

The Association express and post-office will be found in the vestibule of the Music Hall. Mails will be delivered several times during each day.

A lunch for the members of the Association will be served each day in Horticultural Hall. The members will be required to obtain tickets for themselves and accompanying ladies at the office of the Local Secretaries. Other persons will be required to purchase tickets; and no one will be admitted without a ticket.

On the afternoon of Saturday, the 20th inst., the Asso-

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ciation will visit the Cincinnati Zoological Garden. Members desiring to go may obtain tickets at the office of the local secretaries. The members individually are also invited to visit the Garden at their convenience.

An excursion has been arranged to Chattanooga and Lookout Mountain, over the Cincinnati Southern Railroad, to take place after the adjournment of the Association. Arrangements are also in progress for a visit to the Mammoth Cave, and for the Anthropological Section to examine the excavations in the pre-historic cemetery at Madisonville. For further information, inquire of Committee on Excursions.

A proposed excursion to the Soldiers' Home at Dayton is also under consideration.

The exhibition of scientific specimens and apparatus, on the third floor of the Exposition building, will be open from 9 A. M. to 6 P. M. Members of the Association can procure invitations from the Local Secretaries, without which no one will be admitted. This exhibition is a branch of the Ninth Cincinnati Industrial Exposition, opened in advance by the Commissioners out of courtesy to the Association. It was organized, however, at the suggestion of the Department of Science and Arts of the Ohio Mechanics' Institute, and all the preliminaries were arranged and much of the work carried out by a committee from that institution.

The Cincinnati Public Library on Vine street, between Sixth and Seventh streets, is open daily. The Young Men's Mercantile Library Association also extends the use of its reading-room and library, opposite the Gibson House on Walnut street, to members of the Association during the meetings. In both libraries may be seen daily papers from all parts of the United States.

The Museum of the Cincinnati Society of Natural History, 108 Broadway, is open daily, from 8 A. M. to 9 P. M., and members of the Association are cordially invited to visit it.

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The Board of Management of University Club tenders the privileges of the club to the members of the Association.

The members of the Association are invited to visit the rooms of the "Cuvier Club," No. 200 Fourth street, between Elm and Plum.

The Young Men's Christian Association offer the use of their rooms to the members of the A. A. A. S.

The privileges of the Merchants' Exchange are offered to the members of the Association.

The Cincinnati Gymnasium, No. 102 Fourth Street, extends a cordial invitation to members of the A. A. A. S. to make use of their Reading, Exercising, and Bath Rooms, etc., as they feel inclined.

Mr. Christian Moerlein invites the members to examine his artesian well, near the north end of Elm street.

Members wishing to visit the Observatory will please confer with Professor Stone, in the office of the Local Secretaries.

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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary (Vestibule, Music Hall,) as soon as possible after arrival, to register their names and receive their member's tickets and badges.

All assessments and admission fees must be paid to the Permanent Secretary, or to his Assistant.

A list of newly-elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for entering the Titles of Communications and for Recommendation of Members can be obtained at the office of the Permanent Secretary.

A Subscription Book for the Cincinnati volume will be opened at the office of the Permanent Secretary, and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50, or more, will receive a copy of the volume, by mail, as soon as published.

Back volumes of the Proceedings can be had at the office of the Permanent Secretary, at $1.50 per volume. Any member requiring ten or more volumes to complete his set, may obtain them at $1.00 a copy. (Vols. 26 and 27 are out of print.)

Copies of the Transactions of the Association of Geologists and Naturalists can be had for $3.00.

Bound volumes of the Proceedings are furnished at the office of the Permanent Secretary, for $1.00 a volume

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extra, bound in one-half Turkey morocco; or 50 cents a volume extra (by mail 60 cents), bound in cloth. Uniform cloth covers for all the volumes can be had at 25 cents each (by mail 30 cents).

The Memoirs of the Association, No. 1, are furnished at $2.00 a copy, in paper covers, or for $3.50 bound in half Turkey morocco.

☞ The BOSTON VOLUME, of 875 pages, in two parts, was mailed, on the 1st of August, to every member who had paid the assessment for the Boston meeting.

Members paying back-assessments will be furnished with the volumes due them (except 26 and 27, which are out of print) at the time of making their payments.

ANNOUNCEMENT OF THE STANDING COMMITTEE.

The Standing Committee particularly requests that after papers have been read authors will leave their MSS. with the Secretaries of the Sections and Subsections, in order that the papers may be referred at once to the Publication Committee for consideration.

The Committee also requests authors to condense their papers as much as possible. When an abstract can be given which will satisfactorily cover the substance of the paper, the Committee hopes that such will be left for publication in place of the paper in full. The rules of the Association require papers to be in the hands of the Permanent Secretary within one month after adjournment, but if authors will comply with the above request of the Committee much time and labor will be saved.

By vote of the Committee at the Saratoga Meeting, titles of papers will not be entered on the list of papers received

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unless accompanied by abstracts. *Papers cannot be received after Saturday noon, August* 20.

The Committee again calls attention to the fact that the increase of membership during the last two years, makes it important to reprint volumes 2 (Cambridge Meeting, 1849), 26 (Nashville Meeting, 1877), and 27 (St. Louis Meeting, 1878), of the Proceedings. Owing to the financial condition of the Association this cannot be done without liberal assistance on the part of the members and others interested. The Committee, therefore, hopes that all who feel able to do so will leave their contributions for this purpose at the office of the Permanent Secretary.

ASSIGNMENT OF ROOMS IN THE MUSIC HALL.

Local Committee, Local Secretaries, Permanent Secretary, Register, Conversation Room, Post Office and Express Packages, Telephone, News Stand,	In the vestibule, 1st floor, main building.

Ladies' Room, south corridor, 1st floor.

Gentlemen's Room, north corridor, 1st floor.

General Session And Section A, } Large front room, 2d floor, north building.

Section B, Front, south side, 2d floor, main building.

Subsections of Entomology and Microscopy, (On alternate days) in front room, 2d floor, north building.

Subsection of Anthropology, rear room, 2d floor, Horticultural Hall.

Subsection of Chemistry, rear room, 1st floor, south corridor.

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MEMBERS ELECTED AUGUST 20, 1881.

(Continued from Page 96.)

333. Chas. Arthur Le Boutillier, M. D., Cincinnati, Ohio.
334. A. L. Baker, Baltimore, Md.
335. B. N. Baker, Baltimore, Md.
336. Robert Claake, Cincinnati, Ohio.
337. Miss Mary Coulson, Oxford, Ohio.
338. Hon. Joseph Cox, Madisonville, Ohio.
339. Geo. W. Davison, Baltimore, Md.
340. E. W. Davison, Baltimore, Md.
341. Thomas S. Gladding, New York.
342. Dr. Wills De Haas, Washington, D. C.
343. Dr. A. Hoeltge, Cincinnati, Ohio.
344. J. Stoddard Johnston, Frankfort, Ky.
345. Mrs. M. V. Kenan, Cincinnati, Ohio.
346. James E. Larimer, Lawrenceburgh, Ind.
347. Francis P. Leavenworth, Mt. Lookout, Ohio.
348 Albert S. Macombe, Toledo, Ohio.
349. Hermann Meiners, St. Xavier College, Cincinnati, Ohio.
350. Dr. Chas. A. Miller, Carthage, Ohio.
351. Chas. F. Mussey, Cincinnati, Ohio.
352. C. S. Pierce, Johns Hopkins Un., Baltimore.
353. D. P. Penhallow, Cambridge, Mass.
354. Mrs. M. F. Short, Denver, Col.
355. Chas. M. Stillwell, New York City.
356. J. T. Stroude, Maysville, Ky.
357. Thos. Wm. Tobin, Louisville, Ky.
358. Lindley Vinton, Indianapolis, Ind.
359. Mary Ward, Rochester, N. Y.
360. Graham Wilder, Louisville, Ky.
361. Wm. Sohier Bryant, Boston, Mass.
362. Emily F. Dyer, Cincinnati, Ohio.
363. Henry D. Minot, Roslindale P. O., Boston, Mass.
364. Rev. Jas. A. Meager, Oswego, N. Y.
365. Uriel C. Van Tyne, Cincinnati, Ohio.
366. Judge Alphonso Taft, Cincinnati, Ohio.
367. Miss Mary N. Thompson, Cincinnati, Ohio.
368. Miss M. S. Sibley, Cincinnati, Ohio.
369. W. Storer How, Cincinnati, Ohio.
370. Dr. Chas. P. Hart, Wyoming, Ohio.

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REGISTER OF MEMBERS IN ATTENDANCE.

THURSDAY, AUGUST 18.

1. George J. Brush, New Haven, Conn.
2. Mrs. Brush, New Haven, Conn.
3. C. V. Riley, United States Entomologist, Washington, D. C.
4. F. W. Putnam, Curator, Peabody Museum, Cambridge, Mass.
5. Miss Alice E. Putnam, Cambridge, Mass.
6. Miss C. A. Watson, Assistant Secretary A. A. A. S., Salem, Mass.
7. H. Carrington Bolton, Prof. Chemistry, Trinity College, Hartford, Conn.
8. Walter H. Bullock, Optician, Chicago, Ill.
9. John G. Henderson, Judge, Winchester, Ill.
10. W. H. Walmsley, Optician, Philadelphia, Pa.
11. Paul Schweitzer, Professor Chemistry, Columbia, Mo.
12. A. E. Foote, Natural History Specimens, Philadelphia, Pa.
13. Mrs. A. M. Foote, Philadelphia, Pa.
14. H. Raymond Rodgers, Physician, Dunkirk, N. Y.
15. Mrs. E. Harrman, New York City.
16. Daniel Webster Harrman, New York City.
17. Dr. August Pattanger, Physician, Nashville, Tenn.
18. John B. Lindsley, M. D., Professor Chemistry at Medical Department, University Tennessee, Nashville, Tenn.
19. Albert C. Hale, President of Colorado State School of Mines, Golden, Col.
20. S. M. Tracy, Professor Botany State University, Columbia, Mo.
21. F. W. Clarke, Professor of Chemistry and Physics, University of Cincinnati, Cincinnati, Ohio.
22. George H. Knight, Patent Lawyer, Cincinnati, Ohio.
23. Miss Mary Knight, Cincinnati, Ohio.
24. Miss Eva Knight, Cincinnati, Ohio.
25. Alfred Springer, Ph. D., Chemist, Cincinnati, Ohio.
26. Edw. S. Morse, Director Peabody Academy of Sciences, Salem, Mass.
27. Miss Margarette W. Brooks, Entomologist, Salem, Mass.
28. Mrs. Henry M. Brooks, Salem, Mass.
29. Richard Owen, Ex-Professor Indiana State University, New Harmony, Ind.
30. Wm. S. Dudley, Chemist, Cincinnati, Ohio.
31. Jos. J. Walton, Optician, Philadelphia, Pa.
32. Jas. Walton, Barnesville, Ohio.
33. George F. Ballou, Machinist and Electrician, Waltham, Mass.
34. S. C. Heighway, Archæologist, Cincinnati, Ohio.
35. David D. Thompson, Cincinnati, Ohio.
36. Mrs. A. L. Thompson, Lockland, Hamilton County, Ohio.
37. C. Gilbert Wheeler, Professor Chemistry, University Chicago, Chicago, Ill.
38. Mrs. C. Gilbert Wheeler, Chicago, Ill.
39. Edw. T. Nelson, Professor Geol. and Comp. Anatomy, Ohio Wesleyan University, Delaware, Ohio.
40. Robert C. Kedzie, M.D., Professor Chemistry, Lansing, Mich.
41. G. C. Caldwell, Professor Chemistry, Ithaca, N. Y.
42. Franklin C. Hill, Curator, Princeton Museum, Princeton, N. J.
43. Wm. Jas. Beal, Professor Botany and Horticulture, Agricultural College, Lansing, Mich.
44. Mrs. H. E. Kedzie, Lansing, Mich.
45. Henry E. Alvord, Teacher, Mountainville, Orange County, N. Y.
46. Wm. Vieth, Druggist, Cincinnati, Ohio.
47. R. B. Warder, Teacher, North Bend, Ohio
48. R. M. Atwater, Glass Manufacturer, Millville, N. Y.
49. Abby S. Atwood, Millville, N. Y.
50. Carl T. Lorret, Rochester, N. Y.
51. Robert Brown, Cincinnati, Ohio.
52. Mrs. Robert Brown, Cincinnati, Ohio.
53. J. M. Mansfield, Professor of Biology and Physics, Greencastle, Ind.
54. Miss Flora C. Brown, Cincinnati, Ohio.
55. Miss Jessie Brown, Cincinnati, Ohio.
56. Al. Waterhouse, M. D. Jamestown, N. Y.
57. Wm. McAdams, Otterville, Ill.
58. John Hagemann, Chemist, Cincinnati, Ohio.
59. Norton S. Townshend, Teacher, Columbus, Ohio.
60. C. E. Bessey, Botanist, Ames, Iowa.
61. Chas. G. Boernes, Astronomer, Vevay, Ind.
62. Mrs. Chas. G. Boernes, Vevay, Ind.
63. Wm. H. Brewer, Professor Agriculture, Yale College, New Haven, Conn.
64. E. H. Benjamin, Manuf. Chem. App., New York.
65. E. S. Sturtevant, South Framingham, Mass.

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66. S. F. Peckham, Chemist, Providence, R. I.
67. Gust. Brühl, M. D., Cincinnati, Ohio.
68. George G. Swallow, Geologist, Columbia, Mo.
69. Ormond Stone, Astronomer, Cincinnati University, Cincinnati, Ohio.
70. Mrs. Ormond Stone, Cincinnati, Ohio.
71. Daniel Mooar, Lawyer, Keokuk, Iowa.
72. W. H. Hopkirk, Nat. Science, Burlington, Iowa.
73. Mrs. W. H. Hopkirk, Burlington, Iowa.
74. N. H. Winchell, State Geologist, Minneapolis.
75. Davis L. James, Cincinnati, Ohio.
76. G. S. B. Hempstead.
77. John Davis, M. D., Cincinnati, Ohio.
78. Mrs. Dr. John Davis, Cincinnati, Ohio.
79. H. D. Schmidt, M. D., New Orleans, La.
80. Wm Saunders, Entomologist, London, Canada.
81. Thos. Bassnett, Meteorologist, Jacksonville, Florida.
82. Mrs. Thos. Bassnett, Jacksonville, Florida.
83. Miss M. S Cohen, Jacksonville, Florida.
84. William Hosea Ballou, Editor, Evanston, Ill.
85. Mrs. E. A. Smith, Bureau Ethnology, Jersey City.
86. Rev. A. B. Hervey, Taunton, Mass.
87. Albert A. Tuttle, Professor Zoology, State University, Columbus, Ohio.
88. T. C. Mendenhall, Professor Physics, Ohio State University, Columbus, Ohio.
89. E. W. Claypole, B. A., B. Sc., F. G. S., Prof. Nat. Science, Yellow Springs, Ohio.
90. Marcus Baker, U. S. Coast Survey, Washington, D. C.
91. Wm. H. Dall, U. S. Coast Survey, Washington, D. C.
92. J. R. Eaton, Professor Nat. Science, Liberty, Mo.
93. Prof. H. T. Eddy, Professor Mathematics, etc., University of Cincinnati, Cincinnati, Ohio.
94. Mrs. H. T. Eddy, Cincinnati, Ohio.
95. H. H. Newton, Teacher, New Haven, Conn.
96. Jas. Wm. Spencer, Professor Geol., King's College, Windsor, N. S.
97. Henry S. Williams, Professor Paleontology, Cornell, Univ., Ithaca, N. Y.
98. Corliss B. Gardner, Clergyman, Rochester, N. Y.
99. Miss E. E. Fallon, Lawrence, Mass.
100. John Fallon, Lawrence, Mass.
101. John N. Stockwell, Astronomer, Cleveland, Ohio.
102. G. M. Wilber, Botanist, Pine Plains, N. Y.
103. Mrs. Leander Stone, Botanist, Chicago, Ill.
104. Mark W. Harrington, Astronomer, Ann Arbor, Mich.
105. Jos. T. Lovewell, Prof. Chem. and Phys., Washburn College, Topeka, Kan.
106. Theo. Sterling, Prof. Nat. Phil. and Chem., Kenyon College, Gambier, Ohio.
107. J. E. Farnam, Prof. Nat. Science, Georgetown College, Ky.
108. Thos. H. Dinsmore, Teacher, York, Pa.
109. J. A. Lintner, State Entomologist of N. Y., Albany.
110. Daniel W. Hering, Prof. of Mathematics, Western Md. College, Westminster, Md.
111. Rev. Louis Würtele, Actondale, Quebec.
112. Henry C. Coon, Prof. Phys. and Chem., Alfred College, Alfred Center, N. Y.
113. Albert B. Prescott, Chemist, University of Mich., Ann Arbor, Mich.
114. E. S. Richie, Manuf. of Physical Instruments, Boston, Mass.
115. O. H. Fitch, Ashtabula, Ohio.
116. Otis T. Mason, Anthropologist, Washington, D. C.
117. Nat. W. Lord, M. E. and Chemist, Riverside, Ohio.
118. Rev. M. A. Shepard, Inventor, Lebanon, Ill.
119. B. Pickman Mann, Asst. Entomologist, Dept. Agriculture, Washington, D. C.
120. Edgar L. Larkin, Astronomer, New Windsor, Ill.
121. J. O. Baker, Prof. of Civil Eng., Illinois University, Champaigne, Ill.
122. Charles W. Harvey, Teacher, Greensburg, Ind.
123. Tyler McWhorter, Horticulturist, Aledo, Ill.
124. Rev. John G. Morris, Entomologist, Baltimore, Md.
125. B. D. Sanders, Geologist, Millsburg, W. Va.
126. Wm. H. Seaman, U. S. Patent Office, Washington, D. C.
127. Robert Peter, Prof. Chem. and Phys. Lexington, Ky.
128. Mrs. Wm. H. Seaman, Washington, D. C.
129. Alfred M. Peter, Lexington, Ky.
130. Dr. E. P. Howland, D.D.S., Washington, D. C.
131. Mrs. E. P. Howland, Washington, D. C.
132. Wm. Gilbert Mixter, Prof. Chem., Yale College, New Haven, Conn.
133. A. E. Heighway, Surgeon, Cincinnati, Ohio.
134. John M. Edwards, Marlborough, Mass.
135. Geo. Sutton, M.D., Aurora, Ind.
136. J. R. Eastman, Prof. Mathematics, U. S. N. Observatory, Washington, D. C.
137. Mrs. J. R. Eastman, Washington, D. C.
138. Eli T. Tappan, Prof. Mathematics, Kenyon College, Gambier, Ohio.
139. Miss Georgia E. Sutton, Aurora, Ind.

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140. S. W. Robinson, Prof. Mech'l Engineering, Ohio State University, Columbus, Ohio.
141. R. M. Byrnes, Cincinnati, Ohio.
142. Geo. M. Sternberg, Surgeon U. S. Army, San Francisco, Cal.
143. William S. Beebe, Student, Brooklyn, N. Y.
144. Harry I. Hunt, Cincinnati, Ohio.
145. J. H. Hunt, M. D., Cincinnati, Ohio.
146. S. A. Forbes, Director Ill. State Lab. of Nat. Science.
147. Thos. F. Moses, Prof. Nat. Science, Urbana University, Urbana, Ohio.
148. Mrs. T. F. Moses, Urbana, Ohio.
149. E. T. Cox, Geologist, San Francisco, Cal.
150. Miss Mildred S. Cox, San Francisco, Cal.
151. Leonard Waldo, Yale College, New Haven, Conn.
152. J. G. Cisco, Archæologist, Jackson, Tenn.
153. John R. Proctor, Director Ky. Geological Survey, Frankfort, Ky.
154. Rev. B. Sestini, Prof. Mathematics, Woodstock, Md.
155. Prof. E. W. Hyde, Prof. Mathematics, University of Cincinnati.
156. Wm. H. Pettee, Prof. Mineralogy, University of Michigan, Ann Arbor, Mich.
157. Linus E. Russell, M. D., Physician, Springfield, Ill.
158. Prof. W. H. Venable, Cincinnati, Ohio.
159. F. W. Langdon, M. D., Physician, Cincinnati, Ohio.
160. Mrs. O. C. Langdon, Madisonville, Ohio.
161. Chas. D. Zimmerman, Supt. of Fruit, State Farm, Lancaster, Ohio.
162. C. L. Metz, M. D., Physician, Madisonville, Ohio.
163. Wm. Zimmerman, Mechanical Engineer, Chicago, Ill.
164. Clayton Russell, M. D., Physician, Burton, Ohio.
165. C. W. Bradley, R. R. Supt., Cincinnati, Ohio.
166. H. S. Pritchett, Astronomer, Washington University, St. Louis, Mo.
167. Mrs. H. S. Pritchett.
168. John W. Spencer, Geologist, Paxton, Ind.
169. Edward Goldsmith, Chemist, Philadelphia, Pa.
170. T. W. White, Lawyer, Hernando, Miss.
171. Lester Curtis, M. D., Prof. Histology, Chicago Medical College, Chicago, Ill.
172. Mrs. S. Walker, Chicago, Ill.
173. C. R. Stuntz, Teacher Chemistry and Physics, Cincinnati, Ohio.
174. Thos. Taylor, Microscopist, Department Agriculture, Washington, D. C.
175. Chas. S. Minot, Lecturer, Harvard University, Cambridge, Mass.
176. Thos. Meehan, Vice-President Academy Natural Sciences, Philadelphia, Pa.
177. Rev. Geo. M. Maxwell, Teacher, Wyoming, Hamilton County, Ohio.
178. Mrs. Thos. Meehan, Germantown, Pa.
179. Miss Sallie D. Meehan, Germantown, Pa.
180. Miss Fannie G. Meehan, Germantown, Pa.
181. Rev. A. B. Morey, Cincinnati, Ohio.
182. A. J. Cook, Prof. Zoology, Michigan Agricultural College, Lansing, Mich.
183. Prof. Constantin Hertzberg, Polytechnic Institute, Brooklyn, L. I.
184. Wm. Ferrell, U. S. Coast Survey, Washington, D. C.
185. S. H. Trowbridge, Prof. Geology and Natural History, Pritchett Institute, Glasgow, Mo.
186. Rev. E. A. Dalrymple, S. T. D., Baltimore, Md.
187. Miss Sadie Kinder, Indianapolis, Ind.
188. Mrs. C. L. Holstein, Indianapolis, Ind.
189. Miss Julia Igoe, Indianapolis, Ind.
190. Wm. J. Davis, Geologist, Louisville, Ky.
191. Henry Nettelroth, Civil Engineer, Louisville, Ky.
192. Samuel Hart, Prof. Mathematics, Trinity College, Hartford, Conn.
193. John H. Frick, Teacher, Central Wesleyan College, Warrenton, Mo.
194. Wm. Harkness, Professor Mathematics, U. S. Navy, Washington, D. C.
195. Edwin E. Howell, Geologist, Rochester, N. Y.
196. E. B. Elliott, Gov't Actuary, Treasury Dep't, Washington, D. C.
197. A. B. Thrasher, M. D., Physician, Cincinnati, Ohio.
198. Chas. H. Winslow, Prof. Physics, Richmond College, Richmond, Va.
199. Jas. D. Warren, Civil Engineer, Brooklyn, L. I.
200. Mrs. Jas. D. Warner, Brooklyn, L. I.
201. Miss Lucy D. Warner, Brooklyn, L. I.
202. Judge J. B. Stallo, Cincinnati, Ohio.
203. Mrs. Lindley Vinton, Indianapolis, Ind.
204. Chas. H. Rockwell, Astronomer, Tarrytown, N. Y.
205. T. Sterry Hunt, Chemist and Geologist, Montreal, Canada.
206. Wm. H. Edwards, Entomologist, Coalburg, W. Va.
207. Fred. P. Dewey, Analytical Chemist, Washington, D. C.
208. Mrs. Fred. P. Dewey.
209. Edward Farquhar, Assistant Librarian, U. S. Patent Office, Washington, D. C.
210. Dr. Mary B. Moody, Buffalo, N. Y.
211. Robt. O. Moody, Telegraph Operator, Buffalo, N. Y.
212. D. A. Bassett, Teacher, Crawfordsville, Ind.
213. Joseph G. Mattison, Analytical Chemist, Hastings on the Hudson, N. Y.
214. Theodore M. Hopke, Analytical Chemist, Hastings on the Hudson, N. Y.
215. S. S. Scoville, M. D., Lebanon, Ohio.

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216. D. T. D. Dyche, D. D. S., Lebanon, Ohio.
217. Dr. T. G. Comstock, St. Louis, Mo.
218. Mrs. Dr. T. G. Comstock.
219. Chas. W. Dabney, Jr., Ph. D., Director N. C. Experimental Station, Raleigh, N. C.
220. Chas. Wachsmuth, Paleontologist, Burlington, Iowa.
221. F. P. Dunnington, Prof. Analytical Chemistry, University, Va.
222. Sidney H. Short, Professor Physics, University Denver, Denver, Col.
223. Mrs. Sidney H. Short.
224. Mrs. Mattie Miller, Cincinnati, Ohio.
225. W. A. Conklin, Ph. D., Director Central Park Menagerie, New York.
226. Richard Hayes, Teacher, St. Louis, Mo.
227. Chas. Schaeffer, M. D., Philadelphia, Pa.
228. John Michels, Editor "Science," New York.
229. W. J. Warren, Teacher Phys. Sciences, St. Paul, Minn.
230. H. C. Freeman, Civil and Mechanical Engineer, Alto Pass, Ill.
231. T. A. Wylie, Professor Physics, University of Indiana, Bloomington, Ind.
232. Theodore Tonneli, Analytical Chemist, New York.
233. H. W. Wiley, Chemist, Lafayette, Ind.
234. Fred. A. Eddy, Bangor, Me.
235. E. L. Nichols, Physicist, Central University, Richmond, Ky.
236. Mrs. E. L. Nichols.
237. J. D. Putnam, President Academy Natural Sciences, Davenport, Iowa.
238. William Lilley, Geologist, Mauch Chunk, Pa.
239. Mrs. William Lilley.
240. Thomas D. Robertson, Rockport, Ill.
241. Mrs. Thomas D. Robertson.
242. Mrs. Oscar Taylor, Rockford, Ill.
243. Charles Seth Evans, Student University of Cincinnati, Cincinnati, Ohio.
244. Miss A. Robina Taylor, Washington, D. C.
245. H. H. Hill, Druggist, Cincinnati, Ohio.
246. A. T. Keyt, M. D., Cincinnati, Ohio.
247. Wm. B. Davis, M. D., Cincinnati, Ohio.
248. Geo. W. Harper, Principal Woodward High School, Cincinnati, Ohio.
249. E. O. Hurd, Cincinnati, Ohio.
250. Mrs. W. H. Pulsifer, St. Louis, Mo.
251. W. H. Pulsifer, St. Louis, Mo.
252. Virginia K. Bowers, Brazean P. O., Ohio.
253. Miss Virginia Rugg, Newport, Ky.
254. J. E. Kershner, Teacher, Lancaster City, Pa.
255. Edgar F. Miller, Baltimore, Md.
256. H. A. Smith, Dentist, Cincinnati, Ohio.
257. Reynold Janney, Teacher, Wilmington, Ohio.
258. W. I. Chamberlain, Sec. Ohio State Board of Agriculture, Columbus, Ohio.
259. J. M. Crawford, M. D., Prof. Phys. and Micro. Pulte. Hom. Med. College. Cincinnati, Ohio.
260. W. O. Atwater, Prof. Chemistry, Wesleyan University, Middletown, Conn.
261. H. S. Jewett, M. D., Dayton, Ohio.
262. Mrs. J. M. Crawford, Conchologist, Cincinnati, Ohio.
263. Lewis Sherman, M. D., Milwaukee, Wis.
264. Alfred Holbrook, Lebanon, Ohio.
265. Mrs. A. B. Blackwell, Somerville, N. J.
266. J. T. Serler, Ph. D., Teacher, Harrisburg, Pa.
267. W. H. Mussey, Surgeon, Cincinnati, Ohio.
268. A. H. Young, Professor Natural Science, Hanover College, Hanover, Ind.
269. Mrs. A. H. Young, Hanover, Ind.
270. Wm. W. Tracy, Seedsman, Detroit, Mich.
271. T. Berry Smith, Teacher Natural Science, Louisiana, Mo.
272. David Stone, Chemist, Cincinnati, Ohio.
273. Edwin Evans, M. D., Streator, Ill.
274. Newton M. Anderson, Columbus, Ohio.
275. Alfred B. Nelson, Prof. Mathematics Center College, Danville, Ky.
276. Mrs. A. B. Nelson.
277. Miss Hattie M. S. David, Hamilton, Ohio.
278. Schuyler S. Parsons, Student, Lodi, Ohio.
279. H. M. Jones, Clergyman, Delaware, Ohio.
280. Chas. A. Mohr, Chemist Alabama Medical College, Mobile, Ala.
281. W. H. Holmes, Geologist, Smithsonian Institute, Washington, D. C.
282. John Frazer, Lawyer, Cincinnati, Ohio.
283. Mrs. John Frazer, Cincinnati, Ohio.
284. F. A. Gulley, Prof. Agriculture, Agricultural College, Oktibbeha Co., Miss.
285. William W. Payne, Prof. Mathematics and Astronomy Carleton College, Northfield, Minn.
286. Edwin D. Babbitt, Author and Publisher, Cincinnati, Ohio.
287. Thomas French, Jr., Prof. Physics, Urbana, Ohio.
288. Mrs. Thomas French, Urbana, Ohio.
289. Morris B. Crawford, Physicist, Middletown, Conn.
290. John W. White, Teacher of Greek, Cambridge, Mass.

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291. Jno. C. Kimball, Boston, Mass.
292. L. B. Arnold, Writer and Lecturer on the Dairy, Rochester, N. Y.
293. R. A. Hart, Teacher, Streator, Ill.
294. H. C. Wilson, Asst. at Observatory, Mt. Lookout, Ohio.
295. Mrs. J. J. Gest, Cincinnati, Ohio.
296. G. Mallery, U. S. A., Washington, D. C.
297. Elizabeth Bradley, Cincinnati, Ohio.
298. James Leslie, M. D., Cincinnati, Ohio.
299. A. J. Home, Cincinnati, Ohio.
300. Myron H. Harding, M. D., Lawrenceburg, Ind.
301. B. C. Jillson, Teacher, Pittsburgh, Pa.
302. Asa W. Brown, Teacher, Newport, Ky.
303. J. Lawrence Smith, Geologist and Chemist, Louisville, Ky.
304. Mrs. J. L. Smith, Louisville, Ky.
305. Miss Mary Caldwell, Louisville, Ky.
306. Miss Caldwell, Louisville, Ky.
307. Jos. F. James, Custodian Cin. Soc. Nat. His., Cincinnati, Ohio.
308. Wm. I. Prescott, M. D., Cincinnati, Ohio.
309. Mrs. Wm. I. Prescott, Cincinnati, Ohio.
310. Mrs. A. B. Morey, Cincinnati, Ohio.
311. Geo. C. Heckman, Minister, Cincinnati, Ohio.
312. Mrs. Geo. C. Heckman, Cincinnati, Ohio.
313. Henry H. Fick, Supt. of Drawing, Cincinnati, Ohio.
314. E. Gustav Zinke, M. D., Cincinnati, Ohio.
315. Rev. Chas. L. Conger, Cincinnati, Ohio.
316. Elmira Y. Howard, M. D., Cincinnati, Ohio.
317. Smithson E. Wright, Treas. L. M. R. R., Cincinnati, Ohio.
318. T. W. Grayden, M. D., Cincinnati, Ohio.
319. Jas. W. Dodd, Professor Latin, Vanderbilt University, Nashville, Tenn
320. Miss Annie Laws, Cincinnati, Ohio.
321. G. Y. Roals, Cincinnati, Ohio.
322. Mrs. G. Y. Roals, Cincinnati, Ohio.
323. J. L. Cleveland, M. D., Cincinnati, Ohio.
324. Mary A. Harding, Lawrenceburg, Ind.
325. Edward Orton, Professor Geology, Columbus, Ohio.
326. A. T. Hyde, Civil Engineer, Cincinnati, Ohio.
327. Jno. B. Peaslee, Superintendent Public Schools, Cincinnati, Ohio.
328. Dr. S. C. Ayres, Cincinnati, Ohio.
329. Dr. Albert S. Gatschet, Washington, D. C.

To Thursday Night.

330. Clinton Rosevelt, Naturalist, New York City.
331. M. H. Fletcher, Dentist, Cincinnati, Ohio.
332. J. D. Cox, Attorney at Law, Cincinnati, Ohio.
333. Edgar R. Quick, Brookville, Ind.
334. Thos. B. Redding, Lawyer, New Castle, Ind.
335. Wm. Falconer, Supt. Botanical Garden, Harvard Univ., Cambridge, Mass.
336. J. R. Walker, D. D. S., New Orleans, La.
337. A. O. Osborn, Waterville, N. Y.
338. Albert R. Ledoux, Chemist, New York.
339. W. W. Thompson, Cincinnati, Ohio.
340. W. L. Conte Stevens, New York.
341. H. W. Trowbridge, Editor, Detroit, Mich.
342. Mrs. L. H. Trowbridge, Editor, Detroit, Mich.
343. Horace C. Hovey, D. D., New Haven, Conn.
344. John V. Porter, Glendale, Hamilton County, Ohio.
345. S. A. Mosgrove, M. D. Urbana, Ohio.
346. L. E. Russell, M. D., Springfield, Ohio.
347. G. A. Zwick, Apothecary, Covington, Ohio.
348. A. E. Heighway, Jr., Medical Student, Cincinnati, Ohio.
349. Walter J. Hoffman, M. D., Washington, D. C.
350. Captain C. E. Dutton, U. S. Geological Survey, Washington, D. C.
351. W. R. Lazerly, Botanist, Columbus, Ohio.
352. Herbert Jenney, Lawyer, Cincinnati, Ohio.
353. Dr. G. W. Hubbard, Professor Nat. Science, Nashville, Tenn.
354. A. R. Crandall, Teacher, Lexington, Ky.
355. Wm. Bross, President Tribune Co., Chicago, Ill.
356. D. W. Prentis, M. D., Washington, D. C.
357. Mrs. D. W. Prentis, Washington, D. C.
358. Eugene A. Smith, Professor Chem. and Geolog., Tuscaloosa, Ala.
359. Simeon T. Clark, M. D., Lockport, N. Y.
360. Edwin Smith, U. S. Coast Survey, Washington, D. C.
361. Robert B. Fulton, Professor Physics and Astr., Univ. of Miss., Oxford, Miss.
362. Karl Langenbeck, Druggist, Cincinnati, Ohio.
363. Oliver P. Jenkins, Prof. Nat. Science, Moore's Hill College, Moore's Hill, Ind.

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364. Enno Sander, Manufacturer, St. Louis, Mo.
365. Chas. Speck, St. Louis, Mo.
366. Mrs. C. R. Stuntz, Cincinnati, Ohio.
367. Chas. B. Dudley, Chemist, Altoona, Pa.
368. Mrs. Louise V. Wilkinson, Brazenn P. O., Perry County, Mo.
369. H. C. Secrist, Physician, Cincinnati, Ohio.
370. George W. Holley, Amateur Optician, Niagara Falls.
371. Henry Carmichael, Professor Chem. and Physics, Brunswick, Me.
372. F. C. N. Richardson, East St. Louis, Ill.
373. S. Brown Wylie, Acting Prof. Chem., Indiana University, Bloomington, Ind.
374. David DeBeck, M. D., Instructor Histology, Medical College of Ohio, Cincinnati, Ohio.
375. S. H. Peabody, Regent Illinois Industrial University, Champagne, Ill.
376. John W. Shorten, Taxidermist, Cincinnati, Ohio.
377. Chas. C. Davis, Attorney at Law, Cincinnati, Ohio.
378. Daniel Mooar, Lawyer, Keokuk, Iowa.
379. Oscar Lowman, Cincinnati, Ohio.
380. H. C. White, State Chemist of Georgia, Athens, Ga.
381. Mrs. H. C. White, Athens, Ga.
382. Miss Nannie Nevitt, Athens, Ga.
383. Theo. L. A. Greve, M. D., Pharmacist, Cincinnati, Ohio.
384. Charles T. Greve, Cincinnati, Ohio.
385. W. Simon, Ph. D., Professor of Chemistry, Baltimore, Md.
386. Joseph Gardiner, M. D., Archæology, Micro. and Geol., Bedford, Ind.
387. John Collett, State Geologist Indiana, Indianapolis, Ind.
388. Cyrus Thomas, State Entomologist, Carbondale, Ill.
389. Thos. Winslow Gordon, M. D., Georgetown, Ohio.
390. W. H. Bowker, Chem. Manufacturer, Boston, Mass.
391. Mrs. W. H. Bowker, Boston, Mass.
392. J. M. Waters, Cincinnati, Ohio.
393. Miss Mary E. Owens, Chemist, Cincinnati, Ohio.
394. M. S. Hawkins, M. D., Nashville, Tenn.
395. S. F. Covington, Cincinnati, Ohio.
396. E. A. Grant, M. D., Louisville, Ky.
397. Aaron F. Perry, Lawyer, Cincinnati, Ohio.
398. Mrs. Elizabeth W. Perry, Cincinnati, Ohio.
399. Miss Edith Strong Perry, Cincinnati, Ohio.
400. A. P. S. Stuart, Chemist, Lincoln, Neb.
401. Julius Dexter, Cincinnati, Ohio.
402. Dr. E. Williams, Physician, Cincinnati, Ohio.
403. J. H. Feemster, Druggist, Cincinnati, Ohio.
404. Helen G. Stewart, Cincinnati, Ohio.
405. Elisa C. Stewart, Cincinnati, Ohio.
406. Harrison Allen Philadelphia, Pa.
407. W. McAlpin, Cincinnati, Ohio
408. C. Leo Mees, Chemist, Columbus, Ohio.
409. And. C. Kemper, M. D., Cincinnati, Ohio.
410. Eliot A. Kebler, Student, University Cincinnati, Cincinnati, Ohio.
411. E. Lyman Hood, Teacher, Cleveland, Ohio.
412. Mrs. Sarah A. Harvey, Teacher, Greensburg, Ind.
413. C. A. L. Reed, M. D., Hamilton, Ohio.
414. Miles Beamer, Chemist, Cincinnati, Ohio.
415. Mrs. John B. Peaslee, Cincinnati, Ohio.
416. Leonard Freeman, Cincinnati, Ohio.
417. W H. Schurmann, Civil Engineer, Cincinnati, Ohio.
418. Dr. D. B. Miller, President Eureka Iron. Co., 604 Greenup St., Covington, Ky.
419. J. W. Chenault, Teacher, Louisville, Ky.
420. L. M. Prince, Optician, Cincinnati, Ohio.
421. Mrs. L. M. Hosea, Cincinnati, Ohio.
422. Maj. L. M. Hosea, Attorney at Law, Cincinnati, Ohio.

To Friday Night.

423. Florien Giauque, Lawyer, Cincinnati, Ohio.
424. C. B. F. Lowe, Chemist, Georgia Chemical Works, Augusta, Ga.
425. Wm. P. Toury, Ph. D., Chemist, Baltimore, Md.
426. C. L. Grafflin, Manufacturer, Wilmington, N. C.
427. J. A. Y. Castner, Chemist, New York.
428. A. de Ghequier, Secretary Chem. and Fert. Exchange, Baltimore, Md.
429. G. A Liebig, Ph. D., Chemist, Baltimore, Md.
430. R. W. L. Rasin, Manufacturer, Baltimore, Md.
431. P. B. Wilson, M. D., Chemist, Baltimore, Md.
432. G. Henry Williams, Chemist, Baltimore, Md.
433. A. T. Crowell, Chemist, Woods Holl, Mass.

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434. Lockwood Myrickz, Chemist, Pacific Guano Co., Boston, Mass.
435. E. Jane Spence, Botanist, Springfield, Ohio.
436. W. Mager, Chemist, Baltimore, Md.
437. Geo. M. Allen, M. D., Cincinnati, Ohio.
438. G. W. Lehmann, Ph. D., Chemist, Baltimore, Md.
439. Ambrose P. Kelsey, Prof. Natural History, Hamilton College, Clinton, N. Y.
440. Get. Merryweather, Merchant, Cincinnati, Ohio.
441. Geo. W. Holsteir, Belvidere, N. Y.
442. J. G. Larimer, Lawrenceburg, Ind.
443. J. B. Killebrew, Nashville, Tenn.
444. L. Schorey, M. D., 170 E. 71st St., New York City.
445. Carrie Schorey, 170 E. 71st St., New York City.
446. Charles Frederick Mussey, Jr., Cincinnati, Ohio.
447. Charles Authur LeBoutillier, M. D., Cincinnati, Ohio.
448. John B. Mitchell, Cincinnati, Ohio.
449. Stephen H. Potter, M. D., Hamilton, Ohio.
450. Mrs. Elizabeth B. Potter, Hamilton, Ohio.
451. D. P. Penhallow, Cambridge, Mass.
452. Stephen D. Peet, Clinton, Wis.
453. H. A. Rattermann, Cincinnati, Ohio.
454. Henry L. Crane, Cincinnati, Ohio.
455. Samuel Marsden, St. Louis, Mo.
456. James Hyatt, Stansfordsville, N. Y.
457. Lindley Vinton, Indianapolis, Ind.
458. Chas. Dury, Avondale, Hamilton county, Ohio.
459. Miss Mary Wampler, Walnut Hills, Cincinnati, Ohio.
460. Miss Mary Coulson, Oxford, Butler county, Ohio.
461. Miss Messina Coulson, Oxford, Butler county, Ohio.
462. Mrs. M. V. Kens.
463. H. C. Weber, Nashville, Tenn.
464. A. Hoeltge, Cincinnati, Ohio.
465. John A. Myers, West Liberty, Ohio county, West Virginia
466. B. N. Baker, Baltimore, Md.
467. A. L. Baker, Baltimore, Md.
468. Geo. W. Davison, Baltimore, Md.
469. E. W. Davison, Baltimore, Md.
470. William G. Mayer, Cincinnati, Ohio.
471. Mrs. Celia Mary, Newport, Ky.
472. Chas. M. Stillwell, New York City.
473. Dr. Wills De Hass, Washington, D. C.
474. John L. Davis, Cincinnati, Ohio.
475. M. E. Keenan, Cincinnati, Ohio.
476. Mrs. Lotta Raymond, Cincinnati, Ohio.
477. J. F. Judge, M.D., Cincinnati, Ohio.
478. Ed. M. Cooper, Cincinnati, Ohio.

To Saturday Night.

479. Mrs. Ashley Brown, Dayton, Ohio.
480. Thos. Wm. Tobin, Louisville, Ky.
481. Graham Wilder, Louisville, Ky.
482. J. P. Geppert, M.D., 305 Race street, Cincinnati, Ohio.
483. Joseph B. Walker, Chemist, 815 Eleventh street, Louisville, Ky.
484. C. L. Pence, Assistant, U. S. Coast Geol. Survey, Washington, D. C.
485. Mrs. Geo. W. Sarhr, Editor, Madisonville, Ohio.
486. T. C. Chamberlin, Geologist, Beloit, Wis.
487. Uriel C. Von Tyne, Cincinnati, Ohio.
488. Mrs. M. E. Streart, Cincinnati, Ohio.
489. Dr. Arthur E. Evans, Res. Physician, Cincinnati Hospital, Cincinnati, Ohio.
490. Dr. Frank Caldwell, Res. Physician, Cincinnati Hospital, Cincinnati, Ohio.
491. Amos W. Butler, Secretary Society of Natural History, Brookville, Ind.
492. H. E. Storrs, Jacksonville, Ill.
493. Herman Meiners, Professor of Mathematics, Cincinnati, Ohio.
494. Albert E. Macomber, Attorney, Toledo, Ohio.
495. Robert Clarke, Publisher, Cincinnati, Ohio.
496. Paul Mohr, Distiller, Cincinnati, Ohio.
497. Alphonso Taft, Lawyer, Cincinnati, Ohio.
498. Louise Maria Taft, Cincinnati, Ohio.
499. Mrs. G. L. Howe, Cincinnati, Ohio.
500. Julius Fuchs, Professor, Cincinnati, Ohio.
501. Mrs. Dr. Mills De Hass, Washington, D. C.
502. Marie N. Thompson, 323 Elm street, Cincinnati, Ohio.
503. W. Storer How, Dentist, Cincinnati, Ohio.

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TITLES OF PAPERS ENTERED.

(Continued from Page 104.)

174, A. Some Phenomena in the conjugation of the infusorium Actinophrys Sol. (30 m.) J. D. Cox.

175, A. On the errors to which Self-registering clinical thermometers are liable. (10 m.)
Leonard Waldo.

176, A. Note on the chemical examination of maize residue from the manufacture of glucose. (5 m.)
C. Gilbert Wheeler.

177, B. The Temperature of North German Traps at the time of their extrusion. (10 m.)
H. Carmichael.

178, B. Recent existence of sword-fish, shark, and dolphin in the fresh water pond near Buffalo, N. Y. (5 m.) . . Wm. Zimmerman.

179, B. Antiquity of Man in America. (20 m.)
W. De Haas.

180, B. Progress of Archaelogical Research. (15 m.)
W. De Haas.

181, B, The Mound Builders. An inquiry into their assumed southern origin. (20 m.)
W. De Haas.

182, A. Four years' observation with the Lysimeter, at at Framington, Mass. (15 m.)
E. Lewis Sturtevent.

*** List Closed.

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SECTION A.

Will meet in the large Front Hall, second floor, North Building.

Vice President—WM. HARKNESS, of Washington.

Secretary—ELI T. TAPPAN, of Gambier.

Sectional Committee.

WILLIAM HARKNESS, ELI T. TAPPAN, LEONARD WALDO, P. SCHWEITZER, GEO. M. STERNBERG, A. B. HERVEY, WM. H. SEAMAN, G. C. CALDWELL, and ALFRED SPRINGER.

Titles of Papers to be Read.

1 (101) A preliminary investigation of the two causes of lateral deviation of spherical projectiles, based on the kinetic theory of gases. (15 m.) . . . . H. T. EDDY.

2 (135) Note on the theory of the flight of elongated projectiles. (5 m.) . . . H. T. EDDY.

3 (136) On the mechanical Principles involved in the flight of the boomerang. (5 m.) H. T. EDDY.

4 (160) The Electrophore and electric lighting. (5 m.) E. B. ELLIOTT.

5 (152) Nodular concretions in meteoric iron, bearing on the origin of same. (15 m.) J. LAWRENCE SMITH.

6 (153) An anomalous magnetic property of a specimen of iron. (5 m.) . J. LAWRENCE SMITH.

7 (175) On the errors to which self-registering clinical thermometers are liable. (10 m.) LEONARD WALDO.

8 (140) A new Radiomotor. (5 m.) H. CARMICHAEL.

9 (141) A new Differential Thermometer. (5 m.) H. CARMICHAEL.

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10 (155) Ringing fences. (5 m.) S. W. ROBINSON.

11 (164) Note on an experimental determination of the value of π. (10 m.) T. C. MENDENHALL.

12 (165) Remarks upon and an exhibition of Japanese Magic mirrors. (10 m.) T. C. MENDENHALL.

13 (159) On standard time. (10 m.) . E. B. ELLIOTT.

14 (134) Time service, Carleton College Observatory. (10 m.) . . . . W. W. PAYNE.

15 (85) On an abbreviation in writing a long series of figures, and its use in calculations. (5 m.) SAMUEL J. WALLACE.

16 (5) A new system of interest, discounts, etc. (10 m.) JAMES W. ROBINSON.

17 (84) On a sign of logical connection in Equations. (5 m) . . . SAMUEL J. WALLACE.

18 (125) A new self-registering Mirror Barometer. (3 m.) . . . JOHN R. PADDOCK.

19 (80) Note on a comparison of Newcomb's Tables of Uranus and Neptune, with those of the same planets by Le Verrier. (10 m.) . D. P. TODD.

20 (4) Universal energy of light. (10 m.) PLINY EARLE CHASE.

21 (167) Scheme for aiding the memory of Euler's transformations of coördinates. (5 m.) J. D. WARNER.

22 (57) Electricity, magnetism, gravitation—their phenomena considered as the manifestations of one force. (30 m.) . . S. S. PARSONS.

23 (81) The saroscope; a register of eclipses traced from Eden's prime, 3939 B. C. (30 m.) A. W. BROWN.

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C.—Permanent Subsection of Chemistry.

Will meet in room at end of south corridor, first floor.

Chairman.—G. C. Caldwell, of Ithaca.

Secretary.—Alfred Springer, of Cincinnati.

1 (161) An attachment for burettes avoiding the necessity of using glass stop-cocks. (5 m.)
Fr. A. Roeder.

2 (162) On a new form of balances. (5 m.)
Fr. A. Roeder.

3 (30) Mixed or new process Sugars, with methods and results of analyses. (10 m.)
H. W. Wiley.

4 (33) A new material suitable for stop cocks and stoppers for reagent bottles. (3 m.)

5 (151) Determination of Phosphorus in iron. (15 m.)
J. Lawrence Smith.

6 (138) A filtration evaporation balance. (6 m.)
H. Carmichael.

7 (139) The liquifaction of glass in contact with water at 250° c. (8 m.) . . H. Carmichael.

8 (108) The chemistry of fish and invertebrates. (20 m.)
W. O. Atwater.

9 (128) Notes in experimental Chemistry. (15 m.)
Albert B. Prescott.

10 (109) The quantitative estimation of nitrogen. (17 m.)
W. O. Atwater.

11 (110) The quantitative estimation of chlorine. (7 m.)
W. O. Atwater.

12 (35) The nitrogenous constituents of grasses. (15 m.)
Clifford Richardson.

13 (133) Some new forms of apparatus for the chemical labratory. (15 m.) . G. C. Caldwell.

14 (14) Development of Sugars in maize and sorghums. (15 m.) . . . . Peter Collier.

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E.—Subsection of Microscopy.

Will meet in the Front Room of North Building, second floor, immediately after the adjournment of the general session.

Chairman—A. B. Hervey, Taunton, Mass.

Secretary—Wm. H. Seaman, Washington, D. C.

Titles of Papers to be Read.

1 (137) On a convenient form of slide case (with specimen). (5 m.) . . . Robt. Brown, Jr.

2 (174) Some phenomena in the conjugation of the infusorium *Actinophrys sol.* (30 m.) J. D. Cox.

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Section B.

Will meet in the Southern Front Room of Main Building, second floor.

Vice President—E. T. Cox, San Francisco.

Secretary—Charles S. Minot, Boston, Mass.

Sectional Committee—E. T. Cox, Wm. Saunders, Garrick Mallery, J. G. Henderson, John G. Morris, B. Pickman Mann, J. D. Putnam, Thomas Meehan, N. H. Winchell.

Titles of Papers to be Read.

1 (116) Note on the segmentation of the vertebrate body. (8 m.) Charles Sedgwick Minot.

2 (115) Note on whether man is the highest animal. (10 m.) . Charles Sedgwick Minot.

3 (117) The motion of roots in germinating Indian corn. (8 m.) . . . W. J. Beal.

4 (129) Additional facts on the fertilization of Yucca. (6 m.) . . . Thomas Meehan.

5 (102) Phenomena of growth in plants. (60 m.) D. P. Penhallow.

6 (64) Digital differentiation. (20 m.) A. J. Howe.

7 (63) Some needed reforms in the use of Botanical terms. (12 m.) . Charles E. Ridler.

8 (38) The recurrence of faunas in the Devonian Rocks of New York. (45 m.) H. S. Williams.

9 (26) A contribution to Croll's theory of secular climatal changes. (25 m.) W. J. McGee.

10 (61) On the Discovery of an Archemediform Tenestellid in the Upper Silurian Rocks of Ohio. (30 m.) . . . E. W. Claypole.

11 (142) On some relations of Birds and Insects. (15 m.) S. A. Forbes.

12. (156) Niagara River. Its cañon, depth, and wear. (15 m.) . . . Wm. Hosea Ballou.

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13 (157) On the relations of the growth, size, and age of animals. (15 m.) . CHARLES S. MINOT.

14 (79) Remarks on the Classification and Distribution of Producti. (25 m.) S. W. TROBRIDGE.

15 (27) Influence of forests upon streams. (30 m.) DAVID D. THOMPSON.

16 (67) Evolution and its place in Geology. (45 m.) EDWARD S. EDMUNDS.

17 (163) Natural Filtration of water for domestic use in cities. (15 m.) . G. C. SWALLOW.

18 (12) The successful administration of nitrous-oxide for dental and surgical operations. (15 m.) C. P. HOWLAND.

19 (166) Notice of a Fern indiginous to California, but heretofore considered as an introduced hot-house species. (10 m.) MRS. LEANDER STONE.

20 (171) Fossil teeth of Mammals from the Drift of Illinois. (5 m.) . . WM. MCADAMS.

21 (22) The Occurrence of Cretaceous fossils near mouth of Illinois river. (5 m.) WM. MCADAMS.

22 (177) The temperature of North German Traps at the time of their extrusion. (10 m.) H. CARMICHAEL.

23 (178) Recent existence of sword-fish, shark, and dolphin in the fresh water pond near Buffalo, N. Y. (5 m.) . . WM. ZIMMERMAN.

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D.—Permanent Subsection of Anthropology.

Will meet in Large Room, second floor, of Horticultural Hall.

Chairman—Garrick Mallery, of Washington.

Secretary—J. G. Henderson, of Winchester.

Titles of Papers to be Read.

1 (71) *Ilex cassine*, the Black Drink of the Southern Indians. (40 m.) . John G. Henderson.

2 (170) The Emblematic Mounds on the four lakes of Wisconsin. (15 m.) Stephen D. Peet.

3 (179) Antiquity of Man in America. (20 m.) W. De Haas.

4 (168) The temporal process of the malar bone in the ancient human crania from Madisonville. (2 m.) . . . Frank W. Langdon

5 (180) Progress of Archæological Research. (15 m.) W. De Haas.

6 (169) Buffalo drives on the Rock river in Wisconsin. (20 m.) . . . Stephen D. Peet.

7 (73) Agriculture and Agricultural Implements of the Ancient Inhabitants of the Mississippi Valley. (35 m.) . . John G. Henderson.

8 (181) The Mound Builders. An inquiry into their assumed southern origin. (20 m.) W. De Haas.

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ORDER OF PROCEEDINGS FOR MONDAY.

Morning.

General Session in Section A Room at 10 o'clock.
Election of Fellows.
Agreement on time of the Montreal meeting.
Election of officers for 1882.
Reports of Special Committees.
Meetings of the Sections and Subsections.

Afternoon.

Association Lunch from 1 to 2½ o'clock.
Meetings of Sections and Subsections at 2½ o'clock.
Visit to Madisonville by the Anthropological Section.

Evening.

Prof. H. C. Bolton's paper on "Alchemy, the Cradle of Chemistry," will be given as a lecture, illustrated by lantern pictures, at 8 o'clock, in the First Presbyterian Church.

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American Association for the Advancement of Science.

TUESDAY, AUGUST 23.

OFFICERS OF THE ASSOCIATION.

FOR THE

CINCINNATI MEETING.

President.
GEORGE J. BRUSH, of New Haven, Connecticut.

Vice President, Section A.
WILLIAM HARKNESS, of Washington, D. C.

Vice President, Section B.
E. T. COX, of San Francisco, Cal.

Chairman of Permanent Subsection of Chemistry.
G. C. CALDWELL, of Ithaca, N. Y.

Chairman of Permanent Subsection of Microscopy.
A. B. HERVEY, of Taunton, Mass.

Chairman of Permanent Subsection of Anthropology.
GARRICK MALLERY, of Washington, D. C.

Chairman of Permanent Subsection of Entomology.
JOHN G. MORRIS, of Baltimore, Md.

Permanent Secretary.
F. W. PUTNAM, of Cambridge, Mass.

General Secretary.
C. V. RILEY, of Washington, D. C.

Secretary of Section A.
E. T. TAPPAN, of Gambier, O.

Secretary of Section B.
CHARLES S. MINOT, of Boston, Mass.

Secretary of Permanent Subsection of Chemistry.
ALFRED SPRINGER, Cincinnati, O.

Secretary of Permanent Subsection of Microscopy.
W. H. SEAMAN, of Washington, D. C.

Secretary of Permanent Subsection of Anthropology.
J. G. HENDERSON, of Winchester, Ill.

Secretary of Permanent Subsection of Entomology.
B. PICKMAN MANN, of Cambridge, Mass.

Treasurer.
WILLIAM S. VAUX, of Philadelphia, Pa.

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MEMBERS OF THE STANDING COMMITTEE

FOR THE

CINCINNATI MEETING.

Past Presidents.—JAMES D. DANA, of New Haven; JAMES HALL, of Albany; STEPHEN ALEXANDER, of Princeton; ISAAC LEA, of Philadelphia; F. A. P. BARNARD, of New York; J. S. NEWBERRY, of New York; B. A. GOULD, of Boston; T. STERRY HUNT, of Montreal; ASA GRAY, of Cambridge; J. LAWRENCE SMITH, of Louisville; JOSEPH LOVERING, of Cambridge; JOHN L. LE CONTE, of Philadelphia; J. E. HILGARD, of Washington; WILLIAM B. ROGERS, of Boston; SIMON NEWCOMB, of Washington; O. C. MARSH, of New Haven; GEORGE F. BARKER, of Philadelphia.

Officers of the Preceding Meeting.—LEWIS H. MORGAN, of Rochester; ASAPH HALL, of Washington; ALEXANDER AGASSIZ, of Cambridge; JOHN K. REES, of St. Louis; HENRY B. NASON, of Troy.

Officers of the Present Meeting.—THE PRESIDENT, VICE PRESIDENTS, PERMANENT AND GENERAL SECRETARIES, THE SECRETARIES OF SECTIONS A AND B, AND THE TREASURER.

From the Association at Large.—F. W. CLARKE, of Cincinnati; A. H. TUTTLE, of Columbus; E. S. MORSE, of Salem; W. H. DALL, of Washington; H. C. BOLTON, of Hartford; T. C. MENDENHALL, of Columbus.

The Committee will meet at the Grand Hotel, Parlor 102, 9 A. M. each day.

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ANNOUNCEMENT OF THE LOCAL SECRETARIES.

Members are requested to call and register their names at the office of the Local and Permanent Secretaries in the vestibule of the Music Hall, as soon as possible after their arrival. They are requested to enter separately each member of their families accompanying them. Each person so registered will receive a ribbon, stamped with the number against his or her name upon the register, and is requested to wear it during the meeting. This will greatly facilitate the arrangements upon excursions, at lunch, etc., besides having other advantages.

The Reception Committee will be represented at the Music Hall by details of the members, made by the chairmen. Members of the Local Committees will be designated by a smoke-colored badge.

The Western Union Telegraph Company will send, free of charge, telegrams relating to social or family matters, for all members in attendance upon the meetings.

Through the courtesy of the City and Suburban Telegraph Association, the rooms of the different Sections will be connected by telephones, and the papers in progress will be announced upon bulletin boards. A telephone connected with the Central Exchange will be found for the use of the members at the offices of the Secretaries.

The Association express and post-office will be found in the vestibule of the Music Hall. Mails will be delivered several times during each day.

A lunch for the members of the Association will be served each day in Horticultural Hall. The members will be required to obtain tickets for themselves and accompanying ladies at the office of the Local Secretaries. Other persons will be required to purchase tickets; and no one will be admitted without a ticket.

An excursion has been arranged to Chattanooga and

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Lookout Mountain, over the Cincinnati Southern Railroad, to take place after the adjournment of the Association. Arrangements are also in progress for a visit to the Mammoth Cave. For further information, inquire of Committee on Excursions.

A proposed excursion to the Soldiers' Home at Dayton is also under consideration.

The exhibition of scientific specimens and apparatus, on the third floor of the Exposition building, will be open from 9 A. M. to 6 P. M. Members of the Association can procure invitations from the Local Secretaries, without which no one will be admitted. This exhibition is a branch of the Ninth Cincinnati Industrial Exposition, opened in advance by the Commissioners out of courtesy to the Association. It was organized, however, at the suggestion of the Department of Science and Arts of the Ohio Mechanics' Institute, and all the preliminaries were arranged and much of the work carried out by a committee from that institution.

The Cincinnati Public Library on Vine street, between Sixth and Seventh streets, is open daily. The Young Men's Mercantile Library Association also extends the use of its reading-room and library, opposite the Gibson House on Walnut street, to members of the Association during the meetings. In both libraries may be seen daily papers from all parts of the United States.

The Museum of the Cincinnati Society of Natural History, 108 Broadway, is open daily, from 8 A. M. to 9 P. M., and members of the Association are cordially invited to visit it.

The Board of Management of University Club tenders the privileges of the club to the members of the Association.

The members of the Association are invited to visit the rooms of the "Cuvier Club," No. 200 Fourth street, between Elm and Plum.

The Young Men's Christian Association offer the use of their rooms to the members of the A. A. A. S.

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The privileges of the Merchants' Exchange are offered to the members of the Association.

The Cincinnati Gymnasium, No. 102 Fourth Street, extends a cordial invitation to members of the A. A. A. S. to make use of their Reading, Exercising, and Bath Rooms, etc., as they feel inclined.

Mr. Christian Moerlein invites the members to examine his artesian well, near the north end of Elm street.

Members wishing to visit the Observatory will please confer with Professor Stone, in the office of the Local Secretaries.

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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary (Vestibule, Music Hall,) as soon as possible after arrival, to register their names and receive their member's tickets and badges.

All assessments and admission fees must be paid to the Permanent Secretary, or to his Assistant.

A list of newly-elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for entering the Titles of Communications and for Recommendation of Members can be obtained at the office of the Permanent Secretary.

A Subscription Book for the Cincinnati volume will be opened at the office of the Permanent Secretary, and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50, or more, will receive a copy of the volume, by mail, as soon as published.

Back volumes of the Proceedings can be had at the office of the Permanent Secretary, at $1.50 per volume. Any member requiring ten or more volumes to complete his set, may obtain them at $1.00 a copy. (Vols. 26 and 27 are out of print.)

Copies of the Transactions of the Association of Geologists and Naturalists can be had for $3.00.

Bound volumes of the Proceedings are furnished at the office of the Permanent Secretary, for $1.00 a volume

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extra, bound in one-half Turkey morocco; or 50 cents a volume extra (by mail 60 cents), bound in cloth. Uniform cloth covers for all the volumes can be had at 25 cents each (by mail 30 cents).

The Memoirs of the Association, No. 1, are furnished at $2.00 a copy, in paper covers, or for $3.50 bound in half Turkey morocco.

☞ The BOSTON VOLUME, of 875 pages, in two parts, was mailed, on the 1st of August, to every member who had paid the assessment for the Boston meeting.

Members paying back-assessments will be furnished with the volumes due them (except 26 and 27, which are out of print) at the time of making their payments.

ANNOUNCEMENT OF THE STANDING COMMITTEE.

The Standing Committee particularly requests that after papers have been read authors will leave their MSS. with the Secretaries of the Sections and Subsections, in order that the papers may be referred at once to the Publication Committee for consideration.

The Committee also requests authors to condense their papers as much as possible. When an abstract can be given which will satisfactorily cover the substance of the paper, the Committee hopes that such will be left for publication in place of the paper in full. The rules of the Association require papers to be in the hands of the Permanent Secretary within one month after adjournment, but if authors will comply with the above request of the Committee much time and labor will be saved.

By vote of the Committee at the Saratoga Meeting, titles of papers will not be entered on the list of papers received

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unless accompanied by abstracts. *Papers cannot be received after Saturday noon, August* 20.

The Committee again calls attention to the fact that the increase of membership during the last two years, makes it important to reprint volumes 2 (Cambridge Meeting, 1849), 26 (Nashville Meeting, 1877), and 27 (St. Louis Meeting, 1878), of the Proceedings. Owing to the financial condition of the Association this cannot be done without liberal assistance on the part of the members and others interested. The Committee, therefore, hopes that all who feel able to do so will leave their contributions for this purpose at the office of the Permanent Secretary.

ASSIGNMENT OF ROOMS IN THE MUSIC HALL.

Local Committee,
Local Secretaries,
Permanent Secretary,
Register,
Conversation Room,
Post Office and Express Packages,
Telephone,
News Stand,
} In the vestibule, 1st floor, main building.

Ladies' Room, south corridor, 1st floor.

Gentlemen's Room, north corridor, 1st floor.

General Session And Section A, } Large front room, 2d floor, north building.

Section B, Front, south side, 2d floor, main building.

Subsections of Entomology and Microscopy, (On alternate days) in front room, 2d floor, north building.

Subsection of Anthropology, rear room, 2d floor, Horticultural Hall.

Subsection of Chemistry, rear room, 1st floor, south corridor.

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MEMBERS ELECTED AUGUST 20, 1881.

(Continued from Page 121.)

371. Newton Fitz, Norfolk, Va.
372. Rev. R. M. Saunders, Norfolk, Va.
373. Miss Carrie Davis, Cincinnati, Ohio.
374. Miss Annie M. Davis, Cincinnati, Ohio.
375. Miss Hattie L. Jones, Cincinnati, Ohio.
376. Chas. W. Dodd, Cincinnati, Ohio.
377. Dr. Geo. W. Homsher, Fairfield, Ind.
378. Dr. R. C. S. Reed, Jones Station, Ohio.
379. Miss Emily Mohr, Cincinnati, Ohio.
380. Miss Marie Mohr, Cincinnati, Ohio.

The following nominations will be acted upon this morning (August 23d):

381. Louis Aufrecht, Cincinnati, Ohio.
382. Charles Y. Beach, Brooklyn, N. Y.
383. Rev. M. Costin, Fordham, N. Y.
384. John Holland, Cincinnati, Ohio.
385. Edwin L. Mehner, Cincinnati, Ohio.
386. Miss Fannie E. McLellan, Oxford, Ohio.
387. A. R. Payne, Cincinnati, Ohio.
388. Rev. T. Stack, Woodstock, Md.
389. W. S. Sterling, Clifton, Ohio.
390. Jacob Traber, Cincinnati, Ohio.
391. Rev. Martin C. Wells, Aurora, Ind.

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REGISTER OF MEMBERS IN ATTENDANCE.

THURSDAY, AUGUST 18.

1. George J. Brush, New Haven, Conn.
2. Mrs. Brush, New Haven, Conn.
3. C. V. Riley, United States Entomologist, Washington, D. C.
4. F. W. Putnam, Curator, Peabody Museum, Cambridge, Mass.
5. Miss Alice E. Putnam, Cambridge, Mass.
6. Miss C. A. Watson, Assistant Secretary A. A. A. S., Salem, Mass.
7. H. Carrington Bolton, Prof. Chemistry, Trinity College, Hartford, Conn.
8. Walter H. Bullock, Optician, Chicago, Ill.
9. John G. Henderson, Judge, Winchester, Ill.
10. W. H. Walmsley, Optician. Philadelphia, Pa.
11. Paul Schweitzer, Professor Chemistry, Columbia, Mo.
12. A. E. Foote, Natural History Specimens, Philadelphia, Pa.
13. Mrs. A. M. Foote, Philadelphia, Pa
14. H. Raymond Rodgers, Physician. Dunkirk, N. Y.
15. Mrs. E. Harrman, New York City.
16. Daniel Webster Harrman, New York City.
17. Dr. August Pattanger, Physician, Nashville, Tenn.
18. John B. Lindsley, M. D., Professor Chemistry at Medical Department, University Tennessee, Nashville, Tenn.
19. Albert C. Hale, President of Colorado State School of Mines, Golden, Col.
20. S. M. Tracy, Professor Botany State University, Columbia, Mo.
21. F. W. Clarke, Professor of Chemistry and Physics, University of Cincinnati, Cincinnati, Ohio.
22. George H. Knight, Patent Lawyer, Cincinnati, Ohio.
23. Miss Mary Knight, Cincinnati, Ohio.
24. Miss Eva Knight, Cincinnati, Ohio.
25. Alfred Springer, Ph. D., Chemist, Cincinnati, Ohio.
26. Edw. S. Morse, Director Peabody Academy of Sciences, Salem, Mass.
27. Miss Margarette W. Brooks, Entomologist, Salem, Mass.
28. Mrs. Henry M. Brooks, Salem, Mass.
29. Richard Owen, Ex-Professor Indiana State University, New Harmony, Ind.
30. Wm. S. Dudley, Chemist, Cincinnati, Ohio.
31. Jos. J. Walton. Optician, Philadelphia, Pa.
32. Jas. Walton, Barnesville, Ohio.
33. George F. Ballou, Machinist and Electrician, Waltham, Mass.
34. S. C. Heighway, Archæologist, Cincinnati, Ohio.
35. David D. Thompson, Cincinnati, Ohio.
36. Mrs. A. L. Thompson, Lockland, Hamilton County, Ohio.
37. C. Gilbert Wheeler, Professor Chemistry, University Chicago, Chicago, Ill.
38. Mrs. C. Gilbert Wheeler, Chicago, Ill.
39. Edw. T. Nelson, Professor Geol. and Comp. Anatomy, Ohio Wesleyan University, Delaware, Ohio.
40. Robert C. Kedzie, M.D., Professor Chemistry, Lansing, Mich.
41. G. C. Caldwell, Professor Chemistry, Ithaca, N. Y.
42. Franklin C. Hill, Curator, Princeton Museum, Princeton, N. J.
43. Wm. Jas. Beal, Professor Botany and Horticulture, Agricultural College, Lansing, Mich.
44. Mrs. H. E. Kedzie, Lansing, Mich.
45. Henry E. Alvord, Teacher, Mountainville, Orange County, N. Y.
46. Wm. Vieth, Druggist, Cincinnati, Ohio.
47. R. B. Warder, Teacher, North Bend, Ohio
48. R. M. Atwater, Glass Manufacturer, Millville, N. Y.
49. Abby S. Atwood, Millville, N. Y.
50. Carl T. Lorret, Rochester, N. Y.
51. Robert Brown, Cincinnati, Ohio.
52. Mrs. Robert Brown, Cincinnati, Ohio.
53. J. M. Mansfield, Greencastle, Ind.
54. Miss Flora C. Brown, Cincinnati, Ohio.
55. Miss Jessie Brown, Cincinnati, Ohio.
56. Al. Waterhouse, M. D. Jamestown, N. Y.
57. Wm. McAdams, Otterville, Ill.
58. John Hagemann, Chemist, Cincinnati, Ohio.
59. Norton S. Townshend, Teacher, Columbus, Ohio.
60. C. E. Bessey, Botanist, Ames, Iowa.
61. Chas. G. Boernes, Astronomer, Vevay, Ind.
62. Mrs. Chas. G. Boernes, Vevay, Ind.
63. Wm. H. Brewer, Professor Agriculture, Yale College, New Haven, Conn.
64. E. H. Benjamin, Manuf. Chem. App., New York.
65. E. S. Sturtevant, South Framingham, Mass.

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66. S. F. Peckham, Chemist, Providence, R. I.
67. Gust. Brühl, M. D., Cincinnati, Ohio.
68. George G. Swallow, Geologist, Columbia, Mo.
69. Ormond Stone, Astronomer, Cincinnati University, Cincinnati, Ohio.
70. Mrs. Ormond Stone, Cincinnati, Ohio.
71. Daniel Mooar, Lawyer, Keokuk, Iowa.
72. W. H. Hopkirk, Nat. Science, Burlington, Iowa.
73. Mrs. W. H. Hopkirk, Burlington, Iowa.
74. N. H. Winchell, State Geologist, Minneapolis.
75. Davis L. James, Cincinnati, Ohio.
76. G. S. B. Hempstead.
77. John Davis, M. D., Cincinnati, Ohio.
78. Mrs. Dr. John Davis, Cincinnati, Ohio.
79. H. D. Schmidt, M. D., New Orleans, La.
80. Wm Saunders, Entomologist, London, Canada.
81. Thos. Bassnett, Meteorologist, Jacksonville, Florida.
82. Mrs. Thos. Bassnett, Jacksonville, Florida.
83. Miss M. S Cohen, Jacksonville, Florida.
84. William Hosea Ballou, Editor, Evanston, Ill.
85. Mrs. E. A. Smith, Bureau Ethnology, Jersey City.
86. Rev. A. B. Hervey, Taunton, Mass.
87. Albert A. Tuttle, Professor Zoology, State University, Columbus, Ohio.
88. T. C. Mendenhall, Professor Physics, Ohio State University, Columbus, Ohio.
89. E. W. Claypole, B. A., B. Sc., F. G. S., Prof. Nat. Science, Yellow Springs, Ohio.
90. Marcus Baker, U. S. Coast Survey, Washington, D. C.
91. Wm. H. Dall, U. S. Coast Survey, Washington, D. C.
92. J. R. Eaton, Professor Nat. Science, Liberty, Mo.
93. Prof. H. T. Eddy, Professor Mathematics, etc., University of Cincinnati, Cincinnati, Ohio.
94. Mrs. H. T. Eddy, Cincinnati, Ohio.
95. H. H. Newton, Teacher, New Haven, Conn.
96. Jas. Wm. Spencer, Professor Geol., King's College, Windsor, N. S.
97. Henry S. Williams, Professor Paleontology, Cornell, Univ., Ithaca, N. Y.
98. Corliss B. Gardner, Clergyman, Rochester, N. Y.
99. Miss E. E. Fallon, Lawrence, Mass.
100. John Fallon, Lawrence, Mass.
101. John N. Stockwell, Astronomer, Cleveland, Ohio.
102. G. M. Wilber, Botanist, Pine Plains, N. Y.
103. Mrs. Leander Stone, Botanist, Chicago, Ill.
104. Mark W. Harrington, Astronomer, Ann Arbor, Mich.
105. Jos. T. Lovewell, Prof. Chem. and Phys., Washburn College, Topeka, Kan.
106. Theo. Sterling, Prof. Nat. Phil. and Chem., Kenyon College, Gambier, Ohio.
107. J. E. Farnam, Prof. Nat. Science, Georgetown College, Ky.
108. Thos. H. Dinsmore, Teacher, York, Pa.
109. J. A. Lintner, State Entomologist of N. Y., Albany.
110. Daniel W. Hering, Prof. of Mathematics, Western Md. College, Westminster, Md.
111. Rev. Louis Würtele, Actondale, Quebec.
112. Henry C. Coon, Prof. Phys. and Chem., Alfred College, Alfred Center, N. Y.
113. Albert B. Prescott, Chemist, University of Mich., Ann Arbor, Mich.
114. E. S. Richie, Manuf. of Physical Instruments, Boston, Mass.
115. O. H. Fitch, Ashtabula, Ohio.
116. Otis T. Mason, Anthropologist, Washington, D. C.
117. Nat. W. Lord, M. E. and Chemist, Riverside, Ohio.
118. Rev. M. A. Shepard, Inventor, Lebanon, Ill.
119. B. Pickman Mann, Asst. Entomologist, Dept. Agriculture, Washington, D. C.
120. Edgar L. Larkin, Astronomer, New Windsor, Ill.
121. J. O. Baker, Prof. of Civil Eng., Illinois University, Champaigne, Ill.
122. Charles W. Harvey, Teacher, Greensburg, Ind.
123. Tyler McWhorter, Horticulturist, Aledo, Ill.
124. Rev. John G. Morris, Entomologist, Baltimore, Md.
125. B. D. Sanders, Geologist, Millsburg, W. Va.
126. Wm. H. Seaman, U. S. Patent Office, Washington, D. C.
127. Robert Peter, Prof. Chem. and Phys. Lexington, Ky.
128. Mrs. Wm. H. Seaman, Washington, D. C.
129. Alfred M. Peter, Lexington, Ky.
130. Dr. E. P. Howland, D.D.S., Washington, D. C.
131. Mrs. E. P. Howland, Washington, D. C.
132. Wm. Gilbert Mixter, Prof. Chem., Yale College, New Haven, Conn.
133. A. E. Heighway, Surgeon, Cincinnati, Ohio.
134. John M. Edwards, Marlborough, Mass.
135. Geo. Sutton, M.D., Aurora, Ind.
136. J. R. Eastman, Prof. Mathematics, U. S. N. Observatory, Washington, D. C.
137. Mrs. J. R. Eastman, Washington, D. C.
138. Eli T. Tappan, Prof. Mathematics, Kenyon College, Gambier, Ohio.
139. Miss Georgia E. Sutton, Aurora, Ind.

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140. S. W. Robinson, Prof. Mech'l Engineering, Ohio State University, Columbus, Ohio.
141. R. M. Byrnes, Cincinnati, Ohio.
142. Geo. M. Sternberg, Surgeon U. S. Army, San Francisco, Cal.
143. William S. Beebe, Student, Brooklyn, N. Y.
144. Harry I. Hunt, Cincinnati, Ohio.
145. J. H. Hunt, M. D., Cincinnati, Ohio.
146. S. A. Forbes, Director Ill. State Lab. of Nat. Science.
147. Thos. F. Moses, Prof. Nat. Science, Urbana University, Urbana, Ohio.
148. Mrs. T. F. Moses, Urbana, Ohio.
149. E. T. Cox, Geologist, San Francisco, Cal.
150. Miss Mildred S. Cox, San Francisco, Cal.
151. Leonard Waldo, Yale College, New Haven, Conn.
152. J. G. Cisco, Archæologist, Jackson, Tenn.
153. John R. Proctor, Director Ky. Geological Survey, Frankfort, Ky.
154. Rev. B. Sestini, Prof. Mathematics, Woodstock, Md.
155. Prof. E. W. Hyde, Prof. Mathematics, University of Cincinnati.
156. Wm. H. Pettee, Prof. Mineralogy, University of Michigan, Ann Arbor, Mich.
157. Linus E. Russell, M. D., Physician, Springfield, Ill.
158. Prof. W. H. Venable, Cincinnati, Ohio.
159. F. W. Langdon, M. D., Physician, Cincinnati, Ohio.
160. Mrs. O. C. Langdon, Madisonville, Ohio.
161. Chas. D. Zimmerman, Supt. of Fruit, State Farm, Lancaster, Ohio.
162. C. L. Metz, M. D., Physician, Madisonville, Ohio.
163. Wm. Zimmerman, Mechanical Engineer, Chicago, Ill.
164. Clayton Russell, M. D., Physician, Burton, Ohio.
165. C. W. Bradley, R. R. Supt., Cincinnati, Ohio.
166. H. S. Pritchett, Astronomer, Washington University, St. Louis, Mo.
167. Mrs. H. S. Pritchett.
168. John W. Spencer, Geologist, Paxton, Ind.
169. Edward Goldsmith, Chemist, Philadelphia, Pa.
170. T. W. White, Lawyer, Hernando, Miss.
171. Lester Curtis, M. D., Prof. Histology, Chicago Medical College, Chicago, Ill.
172. Mrs. S. Walker, Chicago, Ill.
173. C. R. Stuntz, Teacher Chemistry and Physics, Cincinnati, Ohio.
174. Thos. Taylor, Microscopist, Department Agriculture, Washington, D. C.
175. Chas. S. Minot, Lecturer, Harvard University, Cambridge, Mass.
176. Thos. Meehan, Vice-President Academy Natural Sciences, Philadelphia, Pa.
177. Rev. Geo. M. Maxwell, Teacher, Wyoming, Hamilton County, Ohio.
178. Mrs Thos. Meehan, Germantown, Pa.
179. Miss Sallie D. Meehan, Germantown, Pa.
180. Miss Fannie G. Meehan, Germantown, Pa.
181. Rev. A. B. Morey, Cincinnati, Ohio.
182. A. J. Cook, Prof. Zoology, Michigan Agricultural College, Lansing, Mich.
183. Prof. Constantin Hertzberg, Polytechnic Institute, Brooklyn, L. I.
184. Wm. Ferrell, U. S. Coast Survey, Washington, D. C.
185. S. H. Trowbridge, Prof. Geology and Natural History, Pritchett Institute, Glasgow, Mo.
186. Rev. E. A. Dalrymple, S. T. D., Baltimore, Md.
187. Miss Sadie Kinder, Indianapolis, Ind.
188. Mrs. C. L. Holstein, Indianapolis, Ind.
189. Miss Julia Igoe, Indianapolis, Ind.
190. Wm. J. Davis, Geologist, Louisville, Ky.
191. Henry Nettelroth, Civil Engineer, Louisville, Ky.
192. Samuel Hart, Prof. Mathematics, Trinity College, Hartford, Conn.
193. John H. Frick, Teacher, Central Wesleyan College, Warrenton, Mo.
194. Wm. Harkness, Professor Mathematics, U. S. Navy, Washington, D. C.
195. Edwin E. Howell, Geologist, Rochester, N. Y.
196. E. B. Elliott, Gov't Actuary, Treasury Dep't, Washington, D. C.
197. A. B. Thrasher, M. D., Physician, Cincinnati, Ohio.
198. Chas. H. Winslow, Prof. Physics, Richmond College, Richmond, Va.
199. Jas. D. Warren, Civil Engineer, Brooklyn, L. I.
200. Mrs. Jas. D. Warner, Brooklyn, L. I.
201. Miss Lucy D. Warner, Brooklyn, L. I.
202. Judge J. B. Stallo, Cincinnati, Ohio.
203. Mrs. Lindley Vinton, Indianapolis, Ind.
204. Chas. H. Rockwell, Astronomer, Tarrytown, N. Y.
205. T. Sterry Hunt, Chemist and Geologist, Montreal, Canada.
206. Wm. H. Edwards, Entomologist, Coalburg, W. Va.
207. Fred. P. Dewey, Analytical Chemist, Washington, D. C.
208. Mrs. Fred. P. Dewey.
209. Edward Farquhar, Assistant Librarian, U. S. Patent Office, Washington, D. C.
210. Dr. Mary B. Moody, Buffalo, N. Y.
211. Robt. O. Moody, Telegraph Operator, Buffalo, N. Y.
212. D. A. Bassett, Teacher, Crawfordsville, Ind.
213. Joseph G. Mattison, Analytical Chemist, Hastings on the Hudson, N. Y.
214. Theodore M. Hopke, Analytical Chemist, Hastings on the Hudson, N. Y.
215. S. S. Scoville, M. D., Lebanon, Ohio.

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216. D. T. D. Dyche, D. D. S., Lebanon, Ohio.
217. Dr. T. G. Comstock, St. Louis, Mo.
218. Mrs. Dr. T. G. Comstock.
219. Chas. W. Dabney, Jr., Ph. D., Director N. C. Experimental Station, Raleigh, N. C.
220. Chas. Wachsmuth, Paleontologist, Burlington, Iowa.
221. F. P. Dunnington, Prof. Analytical Chemistry, University, Va.
222. Sidney H. Short, Professor Physics, University Denver, Denver, Col.
223. Mrs. Sidney H. Short.
224. Mrs. Mattie Miller, Cincinnati, Ohio.
225. W. A. Conklin, Ph. D., Director Central Park Menagerie, New York.
226. Richard Hayes, Teacher, St. Louis, Mo.
227. Chas. Schaeffer, M. D., Philadelphia, Pa.
228. John Michels, Editor "Science," New York.
229. W. J. Warren, Teacher Phys. Sciences, St. Paul, Minn.
230. H. C. Freeman, Civil and Mechanical Engineer, Alto Pass, Ill.
231. T. A. Wylie, Professor Physics, University of Indiana, Bloomington, Ind.
232. Theodore Tonneli, Analytical Chemist, New York.
233. H. W. Wiley, Chemist, Lafayette, Ind.
234. Fred. A. Eddy, Bangor, Me.
235. E. L. Nichols, Physicist, Central University, Richmond, Ky.
236. Mrs. E. L. Nichols.
237. J. D. Putnam, President Academy Natural Sciences, Davenport, Iowa.
238. William Lilley, Geologist, Mauch Chunk, Pa.
239. Mrs. William Lilley.
240. Thomas D. Robertson, Rockport, Ill.
241. Mrs. Thomas D. Robertson.
242. Mrs. Oscar Taylor, Rockford, Ill.
243. Charles Seth Evans, Student University of Cincinnati, Cincinnati, Ohio.
244. Miss A. Robina Taylor, Washington, D. C.
245. H. H. Hill, Druggist, Cincinnati, Ohio.
246. A. T. Keyt, M. D., Cincinnati, Ohio.
247. Wm. B. Davis, M. D., Cincinnati, Ohio.
248. Geo. W. Harper, Principal Woodward High School, Cincinnati, Ohio.
249. E. O. Hurd, Cincinnati, Ohio.
250. Mrs. W. H. Pulsifer, St. Louis, Mo.
251. W. H. Pulsifer, St. Louis, Mo.
252. Virginia K. Bowers, Brazean P. O., Ohio.
253. Miss Virginia Rugg, Newport, Ky.
254. J. E. Kershner, Teacher, Lancaster City, Pa.
255. Edgar F. Miller, Baltimore, Md.
256. H. A. Smith, Dentist, Cincinnati, Ohio.
257. Reynold Janney, Teacher, Wilmington, Ohio.
258. W. I. Chamberlain, Sec. Ohio State Board of Agriculture, Columbus, Ohio.
259. J. M. Crawford, M. D., Prof. Phys. and Micro. Pulte. Hom. Med. College, Cincinnati, Ohio.
260. W. O. Atwater, Prof. Chemistry, Wesleyan University, Middletown, Conn.
261. H. S. Jewett, M. D., Dayton, Ohio.
262. Mrs. J. M. Crawford, Conchologist, Cincinnati, Ohio.
263. Lewis Sherman, M. D., Milwaukee, Wis.
264. Alfred Holbrook, Lebanon, Ohio.
265. Mrs. A. B. Blackwell, Somerville, N. J.
266. J. T. Serler, Ph. D., Teacher, Harrisburg, Pa.
267. W. H. Mussey, Surgeon, Cincinnati, Ohio.
268. A. H. Young, Professor Natural Science, Hanover College, Hanover, Ind.
269. Mrs. A. H. Young, Hanover, Ind.
270. Wm. W. Tracy, Seedsman, Detroit, Mich.
271. T. Berry Smith, Teacher Natural Science, Louisiana, Mo.
272. David Stone, Chemist, Cincinnati, Ohio.
273. Edwin Evans, M. D., Streator, Ill.
274. Newton M. Anderson, Columbus, Ohio.
275. Alfred B. Nelson, Prof. Mathematics Center College, Danville, Ky.
276. Mrs. A. B. Nelson.
277. Miss Hattie M. S. David, Hamilton, Ohio.
278. Schuyler S. Parsons, Student, Lodi, Ohio.
279. H. M. Jones, Clergyman, Delaware, Ohio.
280. Chas. A. Mohr, Chemist Alabama Medical College, Mobile, Ala.
281. W. H. Holmes, Geologist, Smithsonian Institute, Washington, D. C.
282. John Frazer, Lawyer, Cincinnati, Ohio.
283. Mrs. John Frazer, Cincinnati, Ohio.
284. F. A. Gulley, Prof. Agriculture, Agricultural College, Oktibbeha Co., Miss.
285. William W. Payne, Prof. Mathematics and Astronomy Carleton College, Northfield, Minn.
286. Edwin D. Babbitt, Author and Publisher, Cincinnati, Ohio.
287. Thomas French, Jr., Prof. Physics, Urbana, Ohio.
288. Mrs. Thomas French, Urbana, Ohio.
289. Morris B. Crawford, Physicist, Middletown, Conn.
290. John W. White, Teacher of Greek, Cambridge, Mass.

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291. Jno. C. Kimball, Boston, Mass.
292. L. B. Arnold, Writer and Lecturer on the Dairy, Rochester, N. Y.
293. R. A. Hart, Teacher, Streator, Ill.
294. H. C. Wilson. Asst. at Observatory, Mt. Lookout, Ohio.
295. Mrs. J. J. Gest, Cincinnati, Ohio.
296. G. Mallery, U. S. A., Washington, D. C.
297. Elizabeth Bradley, Cincinnati, Ohio.
298. James Leslie, M. D., Cincinnati, Ohio.
299. A. J. Howe, Cincinnati, Ohio.
300. Myron H. Harding, M. D., Lawrenceburg, Ind.
301. B. C. Jillson, Teacher, Pittsburgh, Pa.
302. Asa W. Brown, Teacher, Newport, Ky.
303. J. Lawrence Smith, Geologist and Chemist, Louisville, Ky.
304. Mrs. J. L. Smith, Louisville, Ky.
305. Miss Mary Caldwell, Louisville, Ky.
306. Miss Caldwell, Louisville, Ky.
307. Jos. F. James, Custodian Cin. Soc. Nat. His., Cincinnati, Ohio.
308. Wm. I. Prescott, M. D., Cincinnati, Ohio.
309. Mrs. Wm. I. Prescott, Cincinnati, Ohio.
310. Mrs. A. B. Morey, Cincinnati, Ohio.
311. Geo. C. Heckman, Minister, Cincinnati, Ohio.
312. Mrs. Geo. C. Heckman, Cincinnati, Ohio.
313. Henry H. Fick, Supt. of Drawing, Cincinnati, Ohio.
314. E. Gustav Zinke, M. D., Cincinnati, Ohio.
315. Rev. Chas. L. Conger, Cincinnati, Ohio.
316. Elmira Y. Howard, M. D., Cincinnati, Ohio.
317. Smithson E. Wright, Treas. L. M. R. R., Cincinnati, Ohio.
318. T. W. Grayden, M. D., Cincinnati, Ohio.
319. Jas. W. Dodd, Professor Latin, Vanderbilt University, Nashville, Tenn
320. Miss Annie Laws, Cincinnati, Ohio.
321. G. Y. Roals, Cincinnati, Ohio.
322. Mrs. G. Y. Roals, Cincinnati, Ohio.
323. J. L. Cleveland, M. D., Cincinnati, Ohio.
324. Mary A. Harding, Lawrenceburg, Ind.
325. Edward Orton, Professor Geology, Columbus, Ohio.
326. A. T. Hyde, Civil Engineer, Cincinnati, Ohio.
327. Jno. B. Peaslee, Superintendent Public Schools, Cincinnati, Ohio.
328. Dr. S. C. Ayres, Cincinnati, Ohio.
329. Dr. Albert S. Gatschet, Washington, D. C.

To Thursday Night.

330. Clinton Rosevelt, Naturalist, New York City.
331. M. H. Fletcher, Dentist, Cincinnati, Ohio.
332. J. D. Cox, Attorney at Law, Cincinnati, Ohio.
333. Edgar R. Quick, Brookville, Ind.
334. Thos. B. Redding, Lawyer, New Castle, Ind.
335. Wm. Falconer, Supt. Botanical Garden, Harvard Univ., Cambridge, Mass.
336. J. R. Walker, D. D. S., New Orleans, La.
337. A. O. Osborn, Waterville, N. Y.
338. Albert R. Ledoux, Chemist, New York.
339. W. W. Thompson, Cincinnati, Ohio.
340. W. L. Conte Stevens, New York.
341. H. W. Trowbridge, Editor, Detroit, Mich.
342. Mrs. L. H. Trowbridge, Editor, Detroit, Mich.
343. Horace C. Hovey, D. D., New Haven, Conn.
344. John V. Porter, Glendale, Hamilton County, Ohio.
345. S. A. Mosgrove, M. D. Urbana, Ohio.
346. L. E. Russell, M. D., Springfield, Ohio.
347. G. A. Zwick, Apothecary, Covington, Ohio.
348. A. E. Heighway, Jr., Medical Student, Cincinnati, Ohio.
349. Walter J. Hoffman, M. D., Washington, D. C.
350. Captain C. E. Dutton, U. S. Geological Survey, Washington, D. C.
351. W. R. Lazerly, Botanist, Columbus, Ohio.
352. Herbert Jenney, Lawyer, Cincinnati, Ohio.
353. Dr. G. W. Hubbard, Professor Nat. Science, Nashville, Tenn.
354. A. R. Crandall, Teacher, Lexington, Ky.
355. Wm. Bross, President Tribune Co., Chicago, Ill.
356. D. W. Prentis, M. D., Washington, D. C.
357. Mrs. D. W. Prentis, Washington, D. C.
358. Eugene A. Smith, Professor Chem. and Geolog., Tuscaloosa, Ala.
359. Simeon T. Clark, M. D., Lockport, N. Y.
360. Edwin Smith, U. S. Coast Survey, Washington, D. C.
361. Robert B. Fulton, Professor Physics and Astr., Univ. of Miss., Oxford, Miss.
362. Karl Langenbeck, Druggist, Cincinnati, Ohio.
363. Oliver P. Jenkins, Prof. Nat. Science, Moore's Hill College, Moore's Hill, Ind.

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364. Enno Sander, Manufacturer, St. Louis, Mo.
365. Chas. Speck, St. Louis, Mo.
366. Mrs. C. R. Stuntz, Cincinnati, Ohio.
367. Chas. B. Dudley, Chemist, Altoona, Pa.
368. Mrs. Louise V. Wilkinson, Brazean P. O., Perry County, Mo.
369. H. C. Secrist, Physician, Cincinnati, Ohio.
370. George W. Holley, Amateur Optician, Niagara Falls.
371. Henry Carmichael, Professor Chem. and Physics, Brunswick, Me.
372. F. C. N. Richardson, East St. Louis, Ill.
373. S. Brown Wylie, Acting Prof. Chem., Indiana University, Bloomington, Ind.
374. David DeBeck, M. D., Instructor Histology, Medical College of Ohio, Cincinnati, Ohio.
375. S. H. Peabody, Regent Illinois Industrial University, Champagne, Ill.
376. John W. Shorten, Taxidermist, Cincinnati, Ohio.
377. Chas. C. Davis, Attorney at Law, Cincinnati, Ohio.
378. Daniel Mooar, Lawyer, Keokuk, Iowa.
379 Oscar Lowman, Cincinnati, Ohio.
380. H. C. White, State Chemist of Georgia, Athens, Ga.
381. Mrs. H. C. White, Athens, Ga.
382. Miss Nannie Nevitt, Athens, Ga.
383. Theo. L. A. Greve, M. D., Pharmacist, Cincinnati, Ohio.
384. Charles T. Greve, Cincinnati, Ohio.
385. W. Simon, Ph. D., Professor of Chemistry, Baltimore, Md.
386. Joseph Gardiner, M. D., Archæology, Micro. and Geol., Bedford, Ind.
387. John Collett, State Geologist Indiana, Indianapolis, Ind.
388. Cyrus Thomas, State Entomologist, Carbondale, Ill.
389. Thos. Winslow Gordon, M. D., Georgetown, Ohio.
390. W. H. Bowker, Chem. Manufacturer, Boston, Mass.
391. Mrs. W. H. Bowker, Boston, Mass.
392. J. M. Waters, Cincinnati, Ohio.
393. Miss Mary E. Owens. Chemist, Cincinnati, Ohio.
394. M. S. Hawkins, M. D., Nashville, Tenn.
395. S. F. Covington, Cincinnati, Ohio.
396. E. A. Grant, M. D., Louisville, Ky.
397. Aaron F. Perry, Lawyer, Cincinnati, Ohio.
398. Mrs. Elizabeth W. Perry, Cincinnati, Ohio.
399. Miss Edith Strong Perry, Cincinnati, Ohio.
400. A. P. S. Stuart, Chemist, Lincoln, Neb.
401. Julius Dexter, Cincinnati, Ohio.
402. Dr. E. Williams, Physician, Cincinnati, Ohio.
403. J. H. Feemster, Druggist, Cincinnati, Ohio.
404. Helen G. Stewart, Cincinnati, Ohio.
405. Elisa C. Stewart, Cincinnati, Ohio.
406. Harrison Allen Philadelphia, Pa.
407. W. McAlpin, Cincinnati, Ohio
408. C. Leo Mees, Chemist, Columbus, Ohio.
409. And. C. Kemper, M. D., Cincinnati, Ohio.
410. Eliot A. Kebler, Student, University Cincinnati, Cincinnati, Ohio.
411. E. Lyman Hood, Teacher, Cleveland, Ohio.
412. Mrs. Sarah A. Harvey, Teacher, Greensburg, Ind.
413. C. A. L. Reed, M. D., Hamilton, Ohio.
414. Miles Beamer, Chemist, Cincinnati, Ohio.
415. Mrs. John B. Peaslee, Cincinnati, Ohio.
416. Leonard Freeman, Cincinnati, Ohio.
417. W. H. Schurmann, Civil Engineer, Cincinnati, Ohio.
418. Dr. D. B. Miller, President Eureka Iron. Co., 604 Greenup St., Covington, Ky.
419. J. W. Chenault, Teacher, Louisville, Ky.
420. L. M. Prince, Optician, Cincinnati, Ohio.
421. Mrs. L. M. Hosea, Cincinnati, Ohio.
422. Maj. L. M. Hosea, Attorney at Law, Cincinnati, Ohio.

To Friday Night.

423. Florien Glauque, Lawyer, Cincinnati, Ohio.
424. C. B. F. Lowe, Chemist, Georgia Chemical Works, Augusta, Ga.
425. Wm. P. Toury, Ph. D., Chemist, Baltimore, Md.
426. C. L. Graffilin, Manufacturer, Wilmington, N. C.
427. J. A. Y. Castner, Chemist, New York.
428. A. de Ghequier, Secretary Chem. and Fert. Exchange, Baltimore, Md.
429. G. A Liebig, Ph. D., Chemist, Baltimore, Md.
430. R. W. L. Rasin, Manufacturer, Baltimore, Md.
431. P. B. Wilson, M. D., Chemist, Baltimore, Md.
432. G. Henry Williams, Chemist, Baltimore, Md.
433. A. T. Crowell, Chemist, Woods Holl, Mass.

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434. Lockwood Myrickz, Chemist, Pacific Guano Co., Boston, Mass.
435. E. Jane Spence, Botanist, Springfield, Ohio.
436. W. Mager, Chemist, Baltimore, Md.
437. Geo. M. Allen, M. D., Cincinnati, Ohio.
438. G. W. Lehmann, Ph. D., Chemist, Baltimore, Md.
439. Ambrose P. Kelsey, Prof. Natural History, Hamilton College, Clinton, N. Y.
440. Get. Merryweather, Merchant, Cincinnati, Ohio.
441. Geo. W. Holstein, Belvidere, N. Y.
442. J. G. Larimer, Lawrenceburg, Ind.
443. J. B. Killebrew, Nashville, Tenn.
444. L. Schorey, M. D., 170 E. 71st St., New York City.
445. Carrie Schorey, 170 E. 71st St., New York City.
446. Charles Frederick Mussey, Jr., Cincinnati, Ohio.
447. Charles Authur LeBoutillier, M. D., Cincinnati, Ohio.
448. John B. Mitchell, Cincinnati, Ohio.
449. Stephen H. Potter, M. D., Hamilton, Ohio.
450. Mrs. Elizabeth B. Potter, Hamilton, Ohio.
451. D. P. Penhallow, Cambridge, Mass.
452. Stephen D. Peet, Clinton, Wis.
453. H. A. Rattermann, Cincinnati, Ohio.
454. Henry L. Crane, Cincinnati, Ohio.
455. Samuel Marsden, St. Louis, Mo.
456. James Hyatt, Stansfordsville, N. Y.
457. Lindley Vinton, Indianapolis, Ind.
458. Chas. Dury, Avondale, Hamilton county, Ohio.
459. Miss Mary Wampler, Walnut Hills, Cincinnati, Ohio.
460. Miss Mary Coulson, Oxford, Butler county, Ohio.
461. Miss Messina Coulson, Oxford, Butler county, Ohio.
462. Mrs. M. V. Kens.
463. H. C. Weber, Nashville, Tenn.
464. A. Hoeltge, Cincinnati, Ohio.
465. John A. Myers, West Liberty, Ohio county, West Virginia
466. B. N. Baker, Baltimore, Md.
467. A. L. Baker, Baltimore, Md.
468. Geo. W. Davison, Baltimore, Md.
469. E. W. Davison, Baltimore, Md.
470. William G. Mayer, Cincinnati, Ohio.
471. Mrs. Celia Mary, Newport, Ky.
472. Chas. M. Stillwell, New York City.
473. Dr. Wills De Hass, Washington, D. C.
474. John L. Davis, Cincinnati, Ohio.
475. M. E. Keenan, Cincinnati, Ohio.
476. Mrs. Lotta Raymond, Cincinnati, Ohio.
477. J. F. Judge, M.D., Cincinnati, Ohio.
478. Ed. M. Cooper, Cincinnati, Ohio.

To Saturday Night.

479. Mrs. Ashley Brown, Dayton, Ohio.
480. Thos. Wm. Tobin, Louisville, Ky.
481. Graham Wilder, Louisville, Ky.
482. J. P. Geppert, M.D., 305 Race street, Cincinnati, Ohio.
483. Joseph B. Walker, Chemist, 815 Eleventh street, Louisville, Ky.
484. C. L. Pence, Assistant, U. S. Coast Geol. Survey, Washington, D. C.
485. Mrs. Geo. W. Sarhr, Editor, Madisonville, Ohio.
486. T. C. Chamberlin, Geologist, Beloit, Wis.
487. Uriel C. Von Tyne, Cincinnati, Ohio.
488. Mrs. M. E. Streart, Cincinnati, Ohio.
489. Dr. Arthur E. Evans, Res. Physician, Cincinnati Hospital, Cincinnati, Ohio.
490. Dr. Frank Caldwell, Res. Physician, Cincinnati Hospital, Cincinnati, Ohio.
491. Amos W. Butler, Secretary Society of Natural History, Brookville, Ind.
492. H. E. Storrs, Jacksonville, Ill.
493. Herman Meiners, Professor of Mathematics, Cincinnati, Ohio.
494 Albert E. Macomber, Attorney, Toledo, Ohio.
495. Robert Clarke, Publisher, Cincinnati, Ohio.
496. Paul Mohr, Distiller, Cincinnati, Ohio.
497. Alphonso Taft, Lawyer, Cincinnati, Ohio.
498. Louise Maria Taft, Cincinnati, Ohio.
499. Mrs. G. L. Howe, Cincinnati, Ohio.
500. Julius Fuchs, Professor, Cincinnati, Ohio.
501. Mrs. Dr. Mills De Hass, Washington, D. C.
502. Marie N. Thompson, 323 Elm street, Cincinnati, Ohio.
503. W. Storer How, Dentist, Cincinnati, Ohio.

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To Monday Night.

504. Geo. W. Rapp, Architect, Cincinnati, Ohio.
505. F. Forcheimer, M.D., Prof. Physiology, Med. College of Ohio, Cincinnati, Ohio.
506. R. P. Whitfield, Geologist and Paleontologist, American Museum of Natural History, New York City.
507. W. J. McGee, Geologist of Iowa, Farley, Iowa.
508. Miss Alice C. Fletcher, Anthropologist, New York.
509. Chas. W. Dodd, Student, Ann Arbor, Mich., Mt. Auburn, Cincinnati, Ohio.
510. F. J. Sprague, U. S. Navy, North Adams, Mass.
511. Francis P. Leavenworth, Student, Astronomy, Cin. Observ'y, Cincinnati, Ohio.
512. Richard Nelson, President Nelson's Business College, Cincinnati, Ohio.
513. Fannie E. McClellan, Oxford, Ohio.
514. Miss Hattie Logan, Oxford, Ohio.
515. Mrs. H. D. Hinclsby, Oxford, Ohio.
516. Mrs. Dr. A. C. Kemper, Cincinnati, Ohio.
517. Edward P. Robbins, M. E., Cincinnati, Ohio.
518. Chas. A. Hough, M.D., Waynesville, Ohio.
519. Charles P. Hart, M.D., Wyoming, Ohio.
520. Miss Hattie L. Jones, City Hospital, Cincinnati, Ohio.
521. Miss Carrie Davis, Cincinnati, Ohio
522. Miss Anna M. Davis, Cincinnati, Ohio.
523. Miss Menie Mohr, Botanist, Cincinnati, Ohio.
524. Miss Emily Mohr, Botanist, Cincinnati, Ohio.
525. May F. Dibley, Grandin Road, Cincinnati, Ohio,
526. C. R. Crane, Covington, Ky.
527. Robert Sattler, M.D., 64 W. Seventh street, Cincinnati, Ohio.
528. Alfred R. Payne, Mechanical Engineer, Cincinnati, Ohio.
529. John M. Scudder, Physician, Cincinnati, Ohio.
530. W. S. Sterling, Musician, Clifton, Ohio.
531. Edwin L. Mehner, 34 Pearl street, Cincinnati, Ohio.

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FELLOWS ELECTED AUGUST 22.

Ammen, Rear Admiral Daniel, U. S. Navy, Beltsville, Md. (26).
Atkinson, Edward, 131 Devonshire St., Boston, Mass. (29).
Ballou, Geo. F., Waltham, Mass. (29).
Belknap, George E., Captain U. S. N., Malden, Mass. (29).
Bowser, Prof. E. A. Rutgers College, New Brunswick, N. J. (28).
Buckhout, W. A., State College, Centre Co., Pa. (20).
Carhart, Prof. Henry S., Evanston, Ill. (29).
Cox, Hon. J. D., Cincinnati, Ohio (30).
Coxe, Eckley B., Drifton, Jeddo P. O., Lazerone Co., Pa. (23).
Crosby, Wm. O., Mass. Inst. Technology, Boston, Mass. (29).
Davidson, Prof. Geo., Asst. Coast and Geodetic Survey, San Francisco, Cal. (29).
Draper, Dan'l Ph. D., Director N. Y. Meteorological Observatory, Central Park, 64th St., Fifth Avenue, New York, N. Y. (29).
Drown, Prof. Thos. M., Lafayette College, Easton, Pa. (29).
Dudley, Wm. L., Miami Med. College, Cincinnati, Ohio (28).
Edwards, Henry, Wallack's Theater. New York, N. Y. (28).
Ferguson, Maj. Thos. B., Ass't U. S. Fish Commissioner, Washington, D. C. (28).
Fernald, Prof. Charles H., State Agricultural College, Orono, Me. (22).
Fletcher, Dr. Robert, Surgeon General's Office, Washington, D. C. (29).
Gage, Simon Henry, Ithaca, N. Y. (28).
Gallaudet, Edw. E., Pres. Nat. Deaf Mute College, Washington, D. C. (28).
Hall, Edwin H., Johns Hopkins Univ., Baltimore, Md. (29).
Hayden, Dr. F. V., 1910 Arch St., Philadelphia, Pa. (29).
Hill, Franklin C., P. O. Box 338, Princeton, N. J. (29).
Hill, Prof. Walter N., U. S. Torpedo Station, Newport, R. I. (29).
Hitchcock, Romyn, 53 Maiden Lane, New York, N. Y. (29).
Hoffman, Dr. Fred., 797 Sixth Avenue, New York, N. Y. (28).
Holmes, Dr. Oliver Wendell, 296 Beacon St., Boston, Mass. (29).
Hyde, Prof. E. W., Walnut Hills, Cincinnati, Ohio (25).
Jeffries, B. Joy, M. D., 15 Chestnut St., Boston, Mass. (29).
Jillson, Dr. B. C., Pittsburgh. Pa. (14).
Johnson, Prof. W. W., Annapolis, Md. (29).
Kedzie, Prof. Robert C., Lansing, Mich. (29).
Kent, William, Pittsburgh, Pa. (26).
LeConte, Prof. Joseph, University of California, Berkely, Cal. (29).
Ledoux, Albert R., Ph. D., 17 Cedar St., New York, N. Y. (26).
Lord, Prof. Nat. W., State University, Columbus, Ohio (29).
Loudon, Prof. James, Toronto, Can. (25).

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Lyman, Benj. Smith, Northampton, Mass. (15).
Lyons, T. A., Lieut. U. S. N., U. S. Flagship Trenton, European Station, care B. F. Stevens, Esq., No. 4 Trafalgar Square, Charing Cross, London, England (28).
Mabery, C. F., Cambridge, Mass. (29).
Markoe, Geo. F. H., 61 Warren St., Roxbury, Mass. (29).
McCauley, Lieut. C. A. H., U. S. A., care Rev. Dr. McCauley, Reading, Pa. (29).
Mew, Wm. M., Army Med. Mus., Washington, D. C. (29).
Miller, S. A., Cincinnati, Ohio (26).
Murtfeldt, Miss Mary E., Kirkwood, Mo. (27).
Nichols, E. L., Ph. D., Johns Hopkins Univ., Baltimore, Md. (28).
Norwood, Charles, J., Ass't Kentucky Geological Survey, Russellville, Ky. (26).
Osler, Prof. William, McGill College, Montreal, Canada (28).
Parke, John G., Lt. Col. Corps of Eng'rs, Bv't Maj. Gen. U. S. A., Office of Chief of Engineers, Washington, D. C. (29).
Peet, Rev. Stephen D., Clinton, Wis. (24).
Peirce, Prof. James M., Cambridge, Mass. (28).
Peter, Dr. Robert, Ky. Geol. Survey, Lexington, Ky. (29).
Pike, Dr. W. H., University College, Toronto, Can. (29).
Pritchett, Henry S., Morrison Observatory, Glasgow, Mo. (29).
Procter, John R., Director Ky. Geol. Survey, Frankfort, Ky. (26).
Rice, John M., U. S. Naval Academy, Annapolis, Md. (29).
Sampson, Com'd W. T., U. S. N., Naval Academy, Annapolis, Md. (25).
Short, Sidney H., Ohio State Univ., Columbus, Ohio (28).
Smith, Quintius C., M. D., P. O. Box 6, Austin, Texas (26).
Snow, Prof. F. H., Lawrence, Kan. (29).
Story, Wm. E., Johns Hopkins Univ., Baltimore, Md. (29).
Sutton, Dr. George, Aurora, Dearborn Co., Ind. (20).
Tainter, Sumner, Watertown, Mass. (29).
Taylor, Wm. B., Smithsonian Institution, Washington, D. C. (29).
Todd, D. P., Nautical Almanac Office, Washington, D. C. (27).
Townshend, Prof. N. S., Columbus, Ohio (17).
Tracy, Prof. Sam'l M., Columbia, Boone Co., Mo. (27).
Warder, Prof. Robert B., North Bend, Hamilton Co., Ohio (19).
Woerd, Chas. V., American Watch Co., Waltham, Mass. (29).
Wood, Prof. De Volson, Hoboken, N. J. (29).
Woodward, J. J., M. D., Army Medical Museum, Washington, D. C. (28).

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Section A.

Will meet in the large Front Hall, second floor, North Building.

Vice President—Wm. Harkness, of Washington.

Secretary—Eli T. Tappan, of Gambier.

Sectional Committee.

William Harkness, Eli T. Tappan, Leonard Waldo, P. Schweitzer, Geo. M. Sternberg, A. B. Hervey, Wm. H. Seaman, G. C. Caldwell, and Alfred Springer.

Titles of Papers to be Read.

1 (159) On Standard Time. (10 m.) E. B. Elliott.

2 (134) Time service, Carleton College Observatory. (10 m.) . . . . W. W. Payne.

3 (85) On an abbreviation in writing a long series of figures, and its use in calculations. (5 m.) Samuel J. Wallace.

4 (5) A new system of interest, discounts, etc. (10 m.) James W. Robinson.

5 (84) On a sign of logical connection in Equations. (5 m) . . . Samuel J. Wallace.

6 (125) A new self-registering Mirror Barometer. (3 m.) . . . John R. Paddock.

7 (80) Note on a comparison of Newcomb's Tables of Uranus and Neptune, with those of the same planets by Le Verrier. (10 m.) . D. P. Todd.

8 (4) Universal energy of light. (10 m.) Pliny Earle Chase.

9 (167) Scheme for aiding the memory of Euler's transformations of coördinates. (5 m.) J. D. Warner.

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10 (57) Electricity, magnetism, gravitation—their phenomena considered as the manifestations of one force. (30 m.) . . S. S. PARSONS.

11 (81) The Saroscope; a register of eclipses traced from Eden's prime, 3939 B. C. (30 m.)
A. W. BROWN.

12 (182) Four years observation with a Lysimeter, at Farmingham, Mass. (15 m.)
E. L. STURTEVANT.

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SECTION B.

Will meet in the Southern Front Room of Main Building, second floor.

Vice President—E. T. Cox, San Francisco.

Secretary—CHARLES S. MINOT, Boston, Mass.

Sectional Committee—E. T. COX, WM. SAUNDERS, GARRICK MALLERY, J. G. HENDERSON, JOHN G. MORRIS, B. PICKMAN MANN, J. D. PUTNAM, THOMAS MEEHAN, N. H. WINCHELL.

Titles of Papers to be Read.

1 (129) Additional facts on the fertilization of Yucca. (6 m.) . . . THOMAS MEEHAN.

2 (63) Some needed reforms in the use of Botanical terms. (12 m.) . CHARLES E. RIDLER.

3 (60) The evidence from the Drift of Ohio in regard to the origin of Lake Erie. (40 m.) E. W. CLAYPOLE.

4 (142) On some relations of Birds and Insects. (15 m.) S. A. FORBES.

5 (156) Niagara River. Its cañon, depth, and wear. (15 m.) . . . WM. HOSEA BALLOU.

6 (157) On the relations of the growth, size, and age of animals. (15 m.) . CHARLES S. MINOT.

7 (79) Remarks on the Classification and Distribution of Producti. (25 m.) S. W. TROBRIDGE.

8 (67) Evolution and its place in Geology. (45 m.) EDWARD S. EDMUNDS.

9 (163) Natural Filtration of water for domestic use in cities. (15 m.) . G. C. SWALLOW.

10 (12) The successful administration of nitrous-oxide for dental and surgical operations. (15 m.) C. P. HOWLAND.

11 (166) Notice of a Fern indiginous to California, but heretofore considered as an introduced hot-house species. (10 m.) MRS. LEANDER STONE.

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12 (61) On the Discovery of an Archemediform Fenestellid in the Upper Silurian Rocks of Ohio. (30 m.) . . . E. W. CLAYPOLE.

13 (171) Fossil teeth of Mammals from the Drift of Illinois. (5 m.) . . WM. MCADAMS.

14 (22) The Occurrence of Cretaceous fossils near mouth of Illinois river. (5 m.) WM. MCADAMS.

15 (177) The temperature of North German Traps at the time of their extrusion. (10 m.) H. CARMICHAEL.

16 (178) Recent existence of sword-fish, shark, and dolphin in the fresh water pond near Buffalo, N. Y. (5 m.) . . WM. ZIMMERMAN.

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D.—Permanent Subsection of Anthropology.

Will meet in Large Room, second floor, of Horticultural Hall.

Chairman—Otis T. Mason, of Washington.

Secretary—J. G. Henderson, of Winchester.

Titles of Papers to be Read.

1 (179) Antiquity of Man in America. (20 m.)
W. De Haas.

2 (180) Progress of Archæological Research. (15 m.)
W. De Haas.

3 (169) Buffalo drives on the Rock river in Wisconsin. (20 m.) . . . Stephen D. Peet.

4 (73) Agriculture and Agricultural Implements of the Ancient Inhabitants of the Mississippi Valley. (35 m.) . . John G. Henderson.

5 (181) The Mound Builders. An inquiry into their assumed southern origin. (20 m.)
W. De Haas.

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OFFICERS ELECTED

FOR THE

MONTREAL MEETING.

FOURTH WEDNESDAY IN AUGUST, 1882.

President.

J. W. Dawson, of Montreal.

Vice Presidents.

A. Mathematics and Astronomy—Wm. Harkness, of Washington.
B. Physics—T. C. Mendenhall, of Columbus.
C. Chemistry—H. C. Bolton, of Hartford.
D. Mechanical Science—W. P. Trowbridge, of New Haven.
E. Geology and Geography—E. T. Cox, of San Francisco.
F. Biology—W. H. Dall, of Washington.
G. Histology and Microscopy—A. H. Tuttle, of Columbus.
H. Anthropology—Daniel Wilson, of Toronto.
I. Economic Science, and Statistics—E. B. Elliott, of Washington.

Permanent Secretary.

F. W. Putnam, of Cambridge.

General Secretary.

William Saunders, of London, Ontario.

Assistant General Secretary.

J. R. Eastman, of Washington.

Secretaries of the Sections.

A.—H. T. Eddy, of Cincinnati.
B.—Chas. S. Hastings, of Baltimore.
C.—Alfred Springer, of Cincinnati.
D.—Chas. B. Dudley, of Altoona.
E.—C. E. Dutton, of Washington.
F.—Charles S. Minot, of Boston.
G.—Robert Brown, Jr., of Cincinnati.
H.—Otis T. Mason, of Washington.
I.—F. B. Hough, of Lowville.

Treasurer.

William S. Vaux, of Philadelphia.

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ORDER OF PROCEEDINGS FOR TUESDAY.

Morning.

GENERAL SESSION in Section A Room at 10 o'clock.
Meetings of the SECTIONS and SUBSECTIONS.

Afternoon.

Association Lunch from 1 to 2½ o'clock.
Meetings of SECTIONS and SUBSECTIONS at 2½ o'clock.

Evening.

Closing General Session in Section A Room at 8 o'clock.

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MEMBERS ELECTED AUGUST 23, 1881.

(Continued from Page 146.)

381. Louis Aufrecht, Cincinnati, Ohio.
382. Charles Y. Beach, Brooklyn, N. Y.
383. Rev. M. Costin, Fordham, N. Y.
384. John Holland, Cincinnati, Ohio.
385. Edwin L. Mehner, Cincinnati, Ohio.
386. Miss Fannie E. McLellan, Oxford, Ohio.
387. A. R. Payne, Cincinnati, Ohio
388. Rev. T. Stack, Woodstock, Md.
389. W. S. Sterling, Clifton, Ohio.
390. Jacob Traber, Cincinnati, Ohio.
391. Rev. Martin C. Wells, Aurora, Ind.
392. Ferd. Wagner, Cincinnati, Ohio.
393. Robert Barclay, A. B., St. Louis, Mo.
394. Mrs. Jno. R. Proctor, Frankfort, Ky.
395. Col. Theodore Wyatt, A. M., Chester, Pa.
396. C. H. Wilson, Rugby, Tenn.
397. Prof. W. O. Sproull, Cincinnati, Ohio.
398. Bern. B. Gallaudet, M. A., New York City.
399. Wm. Rupp, New York City.
400. Nelson W. Perry, E. M., Cincinnati, Ohio.
401. Geo. H. Huntington, C———.
402. Thos. McFadden, Westerville, Ohio.
403. Benj. B. Dall, Cincinnati, Ohio.
404. Prof. John Haywood, Westerville, Ohio.

REGISTER OF MEMBERS IN ATTENDANCE.

TUESDAY, AUGUST 23.

(Continued from Page 154.)

532. Louis Aufrecht, Preceptor, 324 Plum street, Cincinnati, Ohio.
533. R. C. Stockton Reed, Physician, Jones' Station, Butler Co., Ohio.
534. Henry Wade Davenport, Mechanical Engineer, Cincinnati Southern Railway.
535. Mrs. John Bobbitt, Teacher, Greensburg, Ind.
536. Mrs. Drue T. Williams, Teacher, Greensburg, Ind.
537. John Haywood, Mathematician, Westerville, Ohio.
538. Thomas McFadden, Professor Natural Sciences, Westerville, Ohio.
539. Miss Emma Goepper, 424 Broadway, Cincinnati, Ohio.
540. Benj. B. Dale, Attorney at Law, 25 Wiggins' Block, Cincinnati, Ohio.
541. Mrs. Lizzie A Byrnes, Cincinnati, Ohio.
542. Miss Sallie B. Dale, Cincinnati, Ohio.

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APPENDIX.

SCIENTIFIC, LITERARY, SOCIAL, ART,

AND

PUBLIC EDUCATIONAL

Institutions and Collections

OF

CINCINNATI AND VICINITY.

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SCIENTIFIC INSTITUTIONS.

The Cincinnati Society of Natural History takes pleasure in laying before the **American Association for the Advancement of Science,** the following brief account of some of the **Institutions** and **Collections** which have helped to foster scientific tastes among us.

R. B. WARDER,
F. W. LANGDON, } Committee.
G. W. HARPER,

THE CINCINNATI SOCIETY OF NATURAL HISTORY.

This body was organized in January, 1870, with twenty-five members, and was incorporated in the following June. For seven years the young society had to depend upon the membership dues to meet the current expenses, but in this time of need, the Trustees of the Cincinnati College liberally provided rooms for the meetings and collections, rent free. At the end of the first year the Society was in debt to the amount of about five dollars; but ever since that time it has been free from incumbrances of every kind.

As the legitimate successor of the Western Academy of Natural Sciences, on September 5, 1871, the Society received the entire property of the old Academy, consisting of about three hundred and fifty dollars in money, a library of two hundred and sixty-five volumes, and a large collection of specimens. Soon after, the former officers of the Academy were elected life members of the new Society.

Dr. John A. Warder was the President during the first five years; and the continued life of the Society at that time was largely due to his efforts to infuse an interest into all the meetings.

Large donations of specimens were received at various times from Mr. Robert Buchanan, Lieutenant R. L. Browning, Dr. W. H. Mussey, the Cincinnati Zoological Society, Mr. John Robinson, and the Ohio Mechanics' Institute. All of these have since been incorporated in the general collection.

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In July, 1877, a bequest of fifty thousand dollars, left by a member, Mr. Charles Bodman, was received by the Society. A portion of this was used in the purchase of the building, No. 108 Broadway, now occupied by the Society, and the remainder is kept as a permanent fund for building purposes. Since the occupancy of the present building, in November, 1877, the Society has been in a prosperous condition, and constant additions are being made to its membership and collections.

The Museum.

The **Paleontological Collection** is arranged according to zoological affinities primarily, and secondarily according to formations and groups. It is in two large cases modeled after those in the Smithsonian Institution, and comprises nearly two thousand species. They are chiefly from Ohio, Indiana, Kentucky, and New York. Among them is a fine series of Crinoids from the Crawfordsville, Indiana, beds, and many bones and teeth of the Mammoth and Mastodon from Big Bone Lick, Kentucky. A fine pair of fossil horn-cores of the *Bison latifrons*, Leidy, found in Ohio, may also be mentioned in this connection.

The **Minerals** are well represented in some respects, embracing about four thousand specimens.

The **Marine Shells** number about fifteen hundred species; among them are some fine specimens of the Paper Nautilus.

In **Archæology** the principal attraction is a very full collection of pre-historic relics from the **Madisonville Ancient Cemetery**.

In **Ornithology** the collection contains two fine large African Ostriches, one specimen of the Rhea, or South American Ostrich, a Cassowary from New Zealand, and numerous skins and mounted specimens of the commoner local species.

In **Mammalogy** there is a fair general collection of mounted specimens and osteological preparations, including the skin and skeleton of *Ornithorhynchus paradoxus*, and a fine example of the substance known as adipocere, which retains the shape of the body of the animal (a hog) from which it originated.

A good collection of **Botanical** specimens occupies one of the rooms.

The officers of the Society are as follows:

Dr. R. M. Byrnes,	President.
Dr. J. H. Hunt,	First Vice-President.
Prof. Ormond Stone,	Second Vice-President.
Dr. F. W. Langdon	Secretary.
S. E. Wright, Esq.,	Treasurer.

Members at Large of Executive Board.

Prof. G. W. Harper,	Mr. C. F. Low,
Dr. H. H. Hill,	Prof. J. Mickelborough.

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The above nine officers constitute the **Executive Board** for the government of the financial and business affairs of the Society:

Librarian.

S. A. Miller, Esq.

Trustees.

R. B. Moore, Esq. Julius Dexter, Esq.
S. E. Wright, Esq.

Curators of Departments.

Mineralogy—Prof. J. W. Hall, Jr.
Paleontology—Prof. J. Mickelborough.
Archæology and Ethnology—Dr. H. H. Hill.
Botany—Dr. O. D. Norton.
Conchology—Mr. E. M. Cooper.
Entomology—Mr. Harry J. Hunt.
Icthyology—Dr. D. S. Young.
Herpetology—Mr. A. E. Heighway.
Ornithology and Mammalogy—Mr. J. W. Shorten.
Comparative Anatomy—Dr. A. J. Howe.

The membership now numbers about one hundred and fifty.

Mr. Joseph F. James is Custodian of the Museum, which is open to the public daily (except Sunday), without charge, from 8 A. M. to 5 P. M., at 108 Broadway, corner of Arch street.

East End street-cars pass the door.

THE LITERARY AND SCIENTIFIC SOCIETY OF MADISONVILLE, OHIO.

This Society was organized in the fall of 1878, by a few gentlemen who met by agreement at the residence of S. F. Covington, Esq., in Madisonville. During the following winter the Society instituted a course of popular lectures of a scientific and literary nature, which were well attended by the public of Madisonville and vicinity. The meetings were held at the houses of the various members, until the spring of 1879, when Dr. C. L. Metz invited the Society to meet permanently in his office, which it has since done. In addition to regular winter courses of lectures, and informal excursions of a scientific nature during the summers, the Society has, since April, 1879, conducted the explorations in the ancient cemetery near Madisonville, which have attracted so much attention in the scientific world. Latterly, a portion of the expense of these excavations has been assumed by the Cincinnati Society of Natural History, which, in return, receives a share in the proceeds.

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The following gentlemen compose the Society:

Hon. Joseph Cox,	President.
S. F. Covington, Esq.,	Vice-President.
Charles F. Low, Esq.,	Secretary.
E. A. Conkling, Esq.,	Treasurer.
Dr. Charles L. Metz,	Superintendent.

H. B. Whetsel,
Dr. F. W. Langdon,
W. C. Rogers,
Joseph Cox, Jr.,
J. A. Hosbrook,
A. S. Butterfield, Jr.,
Col. P. P. Lane,
Rev. G. W. Lasher, D.D.,
R. O. Collis,
A. A. Hawes,
A. S. Oliver,
D. S. Hosbrook,
Wm. West,
Capt. W. W. Peabody,
Alonzo Burt.

Honorary Members.

A. J. Ferris,
C. K. Ferris,
Dr. R. M. Byrnes,
Dr. Gustav Brühl,
Charles F. Stites,
Dr. A. M. Johnson,
Dr. H. H. Hill,
L. M. Hosea.

THE ZOOLOGICAL GARDEN.

The **Zoological Society of Cincinnati** was organized July 11, 1873, The credit of originating and carrying out this enterprise is largely due to our German fellow-citizens, and especially to Mr. Andrew Erkenbrecher, the first President.

The grounds cover 26 5 hectars (about 65 acres), and have unusual natural advantages; their topography being beautifully diversified, and a large portion of the grounds covered with native forest trees.

The principal buildings, built of hewn limestone, are, the Carnivora, Bear Pits, Monkey House, Aviary, and Restaurant.

The present collection includes, of

Mammalia, about	300	specimens.
Aves, "	550	"
Reptilia, "	50	"
Total	900	"

The officers of the Society for 1881 are:

S. Lester Taylor,	President.
Otto Laist,	Vice-President.
Albert G. Erkenbrecher,	Treasurer.
Frank J. Thompson,	Secretary and Superintendent.

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Directors.

J. M. Doherty,	B. Roth,
George Fisher,	P. Andrew,
George Hafer,	S. H. Frank.

Main street line of horse-cars runs into the Garden. Vine and Elm street horse-cars pass within two hundred yards of the entrance. A branch of the Cincinnati Northern Railway, now being constructed, will pass through a portion of the grounds. Coupon tickets on horse-cars, ten cents each way.

CUVIER CLUB.

In 1871, a few gentlemen met and formed a Society called the "Ohio Society for the Protection of Game and Fish." In 1874, the name was changed to **"The Cuvier Club."** The objects of the organization are: the protection of game and fish; to secure the proper legislation and enforce the law; to stock depleted streams with desirable food fishes, and to build up a collection illustrative of Ornithology and Ichthyology, for the education, not only of its members, but also of the general public, in these two interesting branches of natural science.

The Club has been very successful and well managed financially. The membership is about five hundred. Many cases of violation of the game and fish laws have been prosecuted by it, and fields and streams stocked with game birds and fishes.

The present quarters proving inadequate, the Club has purchased a lot on Longworth street, east of Race, and is erecting a building thereon.

The officers for 1881 are:

Hon. L. A. Harris,	President.
H. C. Culbertson, Esq.,	First Vice-President.
T. A. Logan, Esq.,	Second Vice-President.
Allan Gazlay, Esq.,	Treasurer.
J. F. Blackburn, Esq.,	Rec. Secretary.
G. W. Carlisle, Esq.,	Corr. Secretary.
Charles Dury, Esq.,	Custodian.

The present location of the Club is at No. 200 West Fourth street, east of Plum; and, by special resolution, the rooms will be open to members of the A. A. A. S. at any and all times during their stay. A Reception Committee has been appointed for the occasion, consisting of Hon. T. A. O'Conner, John D. Caldwell, Esq., and Charles Dury, Esq.

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THE HISTORICAL AND PHILOSOPHICAL SOCIETY OF OHIO.

The Historical and Philosophical Society of Ohio was organized at Columbus, Ohio, in 1831, and met there annually for eighteen years. In 1849, it was united with the Cincinnati Historical Society. This union existed until 1861. The Society was scattered during the war, but in 1869 it was reorganized.

The object of the Society is, in general, the collection and preservation of all books and pamphlets bearing upon American history; in particular, the collection of material for the history of Ohio and of Cincinnati.

The Library now contains about seventy-five hundred volumes, and thirty thousand pamphlets.

The officers for 1881 are:

Hon. M. F. Force,	President.
S. E. Wright, Esq.,	First Vice-President.
Dr. Wm. H. Mussey,	Second Vice-President.
Robert Clarke, Esq,	Corresponding Secretary.
Julius Dexter, Esq.	Recording Secretary.
E. F. Bliss, Esq.,	Treasurer.
Miss E. H. Appleton,	Librarian.

Curators.

Dr. Gustav Brühl. John D. Caldwell, Esq.
C. P. Davis, Esq. George Graham, Esq. (deceased).
H. A. Ratterman, Esq.

The location is in the College Building, Walnut street, between Fourth and Fifth.

Rooms open to visitors on week days from 10 A. M. to 1 P. M.

THE OHIO MECHANICS' INSTITUTE.

This institution was organized in October, 1826, and chartered in the following February, for the diffusion of knowledge in the arts and sciences, and to promote improvements in manufactures and the mechanical arts.

Lectures on chemistry and other subjects were given in the hall of the Cincinnati College, and in the City Council Chamber; but the need of a separate building was soon keenly felt. Through the exertions of Mr. Miles Greenwood and others, funds were secured to purchase a lot, and on the 4th of July, 1848, the corner-stone was laid for the present building on the corner of Sixth and Vine.

Exhibitions of manufactured goods were held almost yearly from 1838 to 1860; and in 1870, with the co-operation of the Cincinnati

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Chamber of Commerce and the Board of Trade, the First Industrial Exposition was held. The success warranted a continuance of the Industrial Expositions, in which the scientific features have become more and more prominent. The Ninth Exposition will be held in September and October of the present year.

In 1856, the Institute established its School of Design, a chief object of which is to afford an opportunity to artizans for practical training in industrial drawing. Accordingly, the sessions are held in the long winter evenings, and many of the most assiduous students are among those who are engaged in manual labor through the day. Over five thousand pupils have been enrolled; and there is a public exhibition of students' work at the close of each session.

The Institute had collected a library of over 7,000 volumes, chiefly relating to the industrial arts; but these books were transferred to the Cincinnati Public Library. The present reading-room, however, which is open each day and evening, is supplied with scientific and technical periodicals, besides a valuable series of specifications of patents.

The Department of Industrial Improvements was organized in 1878, in order to examine into the merits of alleged new improvements in the industrial arts, and to confer awards to such as prove worthy. In 1880, it was deemed best to take a further step by establishing the "Department of Science and Arts" on a broader basis. A permanent organization was effected in January, 1881, and Major L. M. Hosea was elected Chairman. Sections of Chemistry, of Mechanics and Engineering, and of Electricity were also organized, and have been engaged in their special fields of work. Valuable papers have been read and discussed. Free public lectures have been given monthly on topics of practical and popular interest. The number of earnest workers, and the enthusiasm already shown in this department, give good promise for the future.

CINCINNATI INDUSTRIAL EXPOSITION.

On the 16th of March, 1870, the respective committees of the Chamber of Commerce, Board of Trade, and the Ohio Mechanics' Institute, held a joint meeting, for the purpose of exchanging views in regard to a joint exhibition. At this meeting, the three committees were united into one general committee, to provide for holding the "Cincinnati Industrial Exposition of Manufactures, Products, and Arts, in the year 1870," and the following officers were elected:

Charles F. Wilstach,	President.
James H. Laws,	First Vice-President.
Josiah Kirby,	Second Vice-President.
H. A. V. Post,	Treasurer.
Abner L. Frazer,	Secretary.

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Subsequently, on account of his removal to New York, H. A. V. Post resigned his position as treasurer, and C. H. Gould was elected to fill the vacancy; and Joseph Kinsey was elected to fill the vacancy in committee from the Board of Trade, arising also from Mr. Post's change. A complete list of sub-committees was appointed, and the project was now fairly inaugurated. The remainder of the history * * * * presents steady progress.

The Chamber of Commerce, Board of Trade, and Ohio Mechanics' Institute each appropriated one thousand dollars toward the enterprise, and a guarantee fund of twenty-four thousand dollars was secured from citizens; and, as an evidence of the complete financial success of the exhibition, it may be stated that the entire sum was returned to the subscribers after the close of the exposition. (*Extract from Report of Cincinnati Industrial Exposition*, 1870.)

This, the First Cincinnati Industrial Exposition, was held in the building erected for the National Saengerfest, in 1870, on the site of the present Music Hall and Exposition buildings. During the five years following, expositions were held annually in the same buildings. The Seventh and Eighth Expositions were held in 1879 and 1880, in the combined Music Hall and Exposition Buildings, erected through the generosity of Reuben R. Springer and other public spirited citizens; and, in 1881, the Ninth Exposition will be held in the same quarters, beginning September 7th, and continuing one month.

The **Scientific** features of these Exhibitions have, along with the other departments, steadily increased in magnitude and importance; and a special feature of the present one is the **Preliminary Loan Exhibition** of Scientific Apparatus, and Natural History Material, now open to the inspection of members of the American Association for the Advancement of Science.

In addition to the foregoing, the Museums connected with the following institutions possess features of more or less general scientific interest:

Cincinnati College of Medicine and Surgery: George street, between John and Smith.

Miami Medical College: Twelfth street, between Elm and Plum.

Ohio Medical College: Sixth street, between Vine and Race.

Cincinnati Hospital: Occupies the square bounded by Twelfth, Ann, Central Avenue, and Plum streets. Entrance on Twelfth street.

THE UNIVERSITY OF CINCINNATI.

The University owes its existence to Mr. CHARLES MCMICKEN, who left a valuable estate in trust to the city of Cincinnati, in 1858, to establish and maintain a boys' college and a girls' college. Other funds have been added to the original bequest, and the plans have been ex-

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tended so that the University now embraces three departments, as follows:

Academic Department.—This department was regularly organized in 1874; the present building, near the head of Elm Street, on McMicken Avenue, was occupied in 1875.

With a corps of thirteen Professors and instructors, many elective studies are provided in the various undergraduate courses, and a very encouraging attendance of post-graduate students is secured. A special feature in the courses of study is the requirement that each student shall elect some one "principal study" in which to pursue a course of three or four years before receiving a degree. Provision is made for "Licensed Instructors," in imitation of the German "Privatdocenten;" and the experiment has proved quite successful.

There is a good supply of engineering instruments, and well-equipped chemical and physical laboratories. The various collections, illustrating Natural History, Geology, Mineralogy, and Chemical Technology, are as complete as could be expected in so new an institution.

The School of Design.—This department of the University, which was opened in January, 1869, is located at present in College Building, Walnut Street, above Fourth.

Well-graded courses of instruction are provided in Drawing, Decorative Design, Painting, Sculpture, and Carving. The school is provided with the necessary plaster casts, drawings, paintings, books of reference, and other apparatus. The special aim is not merely the study of painting and sculpture, but also the improvement of the industrial arts, by affording to the citizens of Cincinnati, and especially to the operative classes, a thorough technical and scientific education in Art and Design, as applied to manufactures.

Meritorious specimens of the students' work are selected annually for the very attractive public exhibitions.

The Cincinnati Observatory had its origin in a course of astronomical lectures delivered by Professor O. M. Mitchel, in the spring of 1842, at the Hall of the Cincinnati College. A subscription was raised for a telescope and a building, and a site was donated by Mr. Nicholas Longworth. The corner stone was laid on the 9th of November, 1843, by John Quincy Adams, and in the spring of 1845 the telescope of twenty-eight centimetres aperture was mounted on its pier. Professor Mitchel remained in charge until his removal in 1859, to take charge of the Dudley Observatory at Albany. Besides his purely scientific labors, he accomplished a valuable work in rousing public interest in astronomy by lectures, which were marked by great clearness of thought, vividness of imagination, and beauty of diction.

Professor Cleveland Abbe took charge in 1869, but the smoke from the city, which had grown until it quite surrounded the Observatory,

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greatly interfered with his labors. His administration is rendered memorable by the series of daily weather reports which he inaugurated, from which afterward sprung the system now employed by the United States Signal Service, and by his efforts looking towards the permanent establishment of the Observatory in a more eligible location. As a result of these efforts an agreement was entered into by which the sale of the old site was permitted, and the city pledged to maintain the Observatory in connection with the University.

The site now occupied, which was donated by Mr. John Kilgour, is, perhaps, more suitable for astronomical purposes than any other which could have been obtained in Hamilton county. The building is of brick, trimmed with freestone, and consists of a central portion surmounted by a revolving dome and flanked by two wings. It was completed in 1874.

In the spring of the following year, Professor Ormond Stone was elected astronomer, and a new era of activity was then entered upon. The latitude and longitude of the Observatory have been determined. Transit observations are continually made for the regulation of the standard time of Cincinnati. Over 4,000 measures of double stars have been made and nearly 200 new ones discovered. At present the Observatory is engaged in the preparation of a catalogue of all the stars down to the ninth magnitude, situated between 23° and 31° of south declination.

Board of Directors.

Alphonso Taft, Chairman,	John B. Peaslee,
Louis Ballauf,	Thomas L. Young,
——— ———	C. G. Comegys,
Wm. McMaster,	Hiram D. Peck,
Francis Dowling,	M. Lilienthal,
Lewis Seasongood,	C. D. Fishburn,
Patrick Mallon,	John S. Woods,
C. D. Robertson,	W. W. Dawson,
Samuel F. Hunt,	John A. Murphy,

William Means, Mayor of Cincinnati, *ex-officio.*

Instructors—1881–1882.

Thomas Vickers, Rector and Professor of History, Albion Place, Mount Auburn.

Henry Turner Eddy, C. E., Ph. D., Professor of Mathematics and Civil Engineering, and of Astronomy, West Walnut Hills.

Frank Wigglesworth Clarke, S. B., Professor of Chemistry and Physics, Albion Place, Mount Auburn.

Ormond Stone, A. M., Astronomer, Mount Lookout.

Wayland Richardson Benedict, A. M., Professor of Philosophy, 9 Evans Street, Mount Auburn.

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JAMES MORGAN HART, LL.D., Professor of Modern Languages and Literatures, Southern Avenue, Mount Auburn.

EDWARD WYLLYS HYDE, C. E., Professor of Mathematics and Instructor in Civil Engineering, Lincoln Avenue, West Walnut Hills.

ALBERT GALLATIN WETHERBY, A. M., Professor of Natural History, Ridgeway Avenue, Avondale.

WILLIAM OLIVER SPROULL, A. M., Ph. D., Professor of the Latin Language and Literature, and of Arabic, Mason Street, Mount Auburn.

HUGO WALTER, Instructor in French and German, Auburn Avenue, Mount Auburn.

W. F. BRIDGE, Temporary Instructor in the Greek Language and Literature, Foster's Crossing.

HERBERT COUPER WILSON, B. A., Temporary Assistant at the Observatory, Mount Lookout.

ROSALIE G. HOLLINGSHEAD, Licensed Instructor in Elocution, Avondale.

R. B. WARDER, A. M., S. B., Licensed Instructor in Chemistry and Physics, North Bend.

NELSON W. PERRY, M. E., Licensed Instructor in Metallurgy, Auburn Street, Mount Auburn.

THOMAS SATTERWHITE NOBLE, Principal of the School of Design. (Absent in Europe on leave.)

WILLIAM HENRY HUMPHREYS, Teacher of Drawing and Design, and Principal *pro tempore*, West Walnut Hills.

REBECCA RUSSELL WHITTEMORE-GREGG, Teacher of Drawing and Perspective, 50 Dayton Street.

MARTHA JANE KELLER, Teacher of Drawing and Perspective, Miamiville, Ohio.

LOUIS THOMAS REBISSO, Teacher of Sculpture, Sycamore Street, Walnut Hills.

BENN PITMAN, Teacher of Wood Carving, Hillside, Fulton.

NETTIE WILSON, Temporary Teacher of Drawing and Perspective, Mount Harrison.

GEORGE EDWARD HOPKINS, Temporary Teacher of Drawing, Cincinnati.

CINCINNATI MUSEUM ASSOCIATION.

This organization owes its existence to Mr. C. W. West, a citizen of Cincinnati, who, on September 7, 1880, subscribed $150,000 toward the erection of a Museum, on condition that other citizens would subscribe a like amount. This condition has since been more than fulfilled, $326,000 having been subscribed to date. The scheme of organization provides for a board of ten trustees, elected for one, two, three, four, and five years (two for each term), by the stockholders, and it is further provided that, "No stockholder, subscriber, trustee, director, or member shall ever receive any compensation, gain, or profit, from

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the Association for any use of the Museum Building. The present Board of Trustees consists of the following gentlemen.

JOSEPH LONGWORTH, ...	President.
JULIUS DEXTER, ...	Secretary.
C. W. West,	Elliott H. Pendleton,
George Hoadly,	R. H. Galbreath,
A. T. Goshorn,	S. C. Tatem,
M. E. Ingalls,	John Carlisle.

Eden Park has been selected as the site for the Museum, and the building will be erected on the hill overlooking the Park, with the entrance from the South.

THE WOMEN'S ART MUSEUM ASSOCIATION.

The Women's Art Museum Association is an institution established in 1876, for the purpose of arousing the attention of the people of Cincinnati to the advantage of establishing a Museum of Fine Arts in the city. That purpose being virtually accomplished, this Museum Association has made over all its properties to the Cincinnati Museum Association, and simply maintains its organization for the sake of more ably aiding the work of the Museum. Miss E. H. Appleton is the Secretary.

PRIVATE COLLECTIONS IN THE NATURAL SCIENCES.

The following is a list of our principal private collectors in Natural History and allied sciences:

Archæology and Ethnology:

DR. H. H. HILL, corner Fifth and Race streets.
THOMAS CLENEAY, 444 West Sixth street.
ROBERT BROWN, JR., south-west corner Fourth and Plum streets.
DR. R. M. BYRNES, south-east corner Fifth and Race streets.
FLORIEN GAUIQUE, Johnston Building
DR. GUSTAV BRUHL, corner John and Hopkins streets.
DR. W. A. DUN, Cincinnati Hospital.
CHARLES F. LOW, south-west corner Fourth and Plum streets.
DR. F. W. LANGDON, No. 36 Arcade.
JOSEPH COX, JR., Johnston Building.
L. M. HOSEA, Pike's Opera House.
S. C. HEIGHWAY, 86 West Seventh street.
HON. M. F. FORCE, 89 West Eighth street.
L. R. FREEMAN, 274 West Seventh street.
JAMES A. HUGHES, corner Central Avenue and Fourth street.
H. B. WHETSEL, Madisonville, Ohio.

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S. F. Covington, Madisonville, Ohio.
E. A. Conkling. Madisonville, Ohio.
Hon. Joseph Cox, Madisonville, Ohio.
Dr. Charles L. Metz, Madisonville, Ohio.
Mr. R. O. Collis, Madisonville, Ohio.
W. C. Rogers, Madisonville, Ohio.
A. S. Butterfield, Jr., Madisonville, Ohio.
Rev. G. W. Lasher, Madisonville, Ohio.
A. S. Oliver, Madisonville, Ohio.
Wm. West, Madisonville, Ohio.
Captain W. W. Peabody, Madisonville, Ohio.
Alonzo Burt, Madisonville, Ohio.
Colonel P. P. Lane, Norwood, Ohio.
J. A. Hosbrook, Madeira, Ohio.
D. S. Hosbrook, Madeira, Ohio.
A. J. Ferris, Plainville, Ohio.
Charles K. Ferris, Plainville, Ohio.
Dr. Alex. M. Johnson, College Hill, Ohio.

Mammalogy:

Charles Dury, Avondale, Ohio.
Dr. F. W. Langdon, No. 36 Arcade.
J. W. Shorten, 191 West Fourth street.

Ornithology:

Charles Dury, Avondale, Ohio.
Dr. F. W. Langdon, 36 Arcade.
J. W. Shorten, 191 West Fourth street.
Colonel James W. Abert, Newport, Ky.
L. R. Freeman, 274 West Seventh street.
J. Bonsall Porter, Glendale, Ohio.
Julius Balke, Jr., 124 West Ninth street.
Wm. Hubbell Fisher, Wiggins' Block, Fifth and Vine streets.
Harry J. Hunt, 41 East Third street.
G. Holterhoff, Jr., Avondale, Ohio.
Dr. R. M. Byrnes, south-east corner Fifth and Race streets.
Dr. A. B. Thrasher, 94 West Seventh street.
Ezekiel Workum, 28 Main street.
Dr. G. M. Allen, 102 Clark street.
Edgar R. Quick, Brookville, Franklin County, Ind.
A. W. Butler, Brookville, Franklin County, Ind.

Herpetology:

Dr. W. A. Dun, Cincinnati Hospital.
A. E. Heighway, Jr., 86 West Seventh street.

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Ichthyology:

Dr. D. S. Young, 248 West Seventh street.

Conchology:

Dr. R. M. Byrnes, south-east corner Fifth and Race streets.
Prof. A. G. Wetherby, Avondale, Ohio.
Prof. G. W. Harper, Walnut Hills, City.
Charles R. Judge, north-west corner Sixth and Mound streets.
E. M. Cooper, 164 Walnut street.
George S. Huntington, 245 Brown street.
Mrs. M. C. Morehead, Gilbert avenue, opp. Beecher, Walnut Hills.
Dr. J. H. Hunt, 41 East Third street.
G. Holterhoff, Jr., Avondale, Ohio.
Prof. J. Mickelborough, Walnut Hills, City.
S. W. Stanage, Walnut Hills, City.

Entomology:

Charles Dury, Avondale Ohio. Native and exotic Lepidoptera and Coleoptera.

J. W. Shorten, 191 West Fourth street. Lepidoptera.

Dr. F. W. Langdon, 36 Arcade. Native Lepidoptera.

C. G. Siewers, 241 Madison street, Newport, Ky. Lepidoptera and Coleoptera.

Charles F. Low, Madisonville, Ohio; south-west corner Fourth and Plum streets, City. Native Lepidoptera.

V. T. Chambers, Covington, Ky. Lepidoptera. (Tineidæ).

Prof. A. G. Wetherby, Avondale, Ohio. Lepidoptera.

J. M. Crawford, Avondale, Ohio. Coleoptera.

Prof. Wm. Colvin, Walnut Hills, City.

Captain Wm. Holden, with P. G. Thomson, Arcade Book Store. Arachnida.

Entozoa:

Dr. W. H. Taylor, 329 West Seventh street.

Botany:

Joseph F. James, 108 Broadway.
Dr. C. J. Funck, 42 Liberty street.
Thomas W. Spurlock, 20 Mohawk street.
Dr. J. H. Hunt, 41 East Third street.
C. G. Lloyd, Newport, Ky.
Dr. J. A. Warder, North Bend, Ohio.
Prof. J. Mickelborough, Walnut Hills, City.
Davis L. James, 177 Race street.
Paul F. Mohr, 49 Sycamore.
Prof. Wm. Colvin, Walnut Hills, City.

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Paleontology:

S. A. Miller, 8 West Third street.
U. P. James, 177 Race street.
Dr. R. M. Byrnes, south-east corner Fifth and Race streets.
Paul Mohr, 49, 51 and 53 Sycamore street.
Prof. A. G. Wetherby, Avondale, O.
C. B. Dyer, Mt. Harrison, City.
Prof. J. Mickelborough, Walnut Hills, City.
Prof. J. W. Hall, Jr., Covington, Ky.
E. O. Ulrich, Covington, Ky.
Prof. R. B. Warder, North Bend, Ohio.
Dr. D. S. Young, 248 West Seventh street.
W. J. Patterson, 253 Everett street.
E. H. Vaupel.
John M. Nickels, 114 Everett street.
Dr. J. H. Hunt, 41 East Third street.
S. W. Stanage, Walnut Hills, City.
Charles F. Low, corner Fourth and Plum streets.
Wm. E. Cook, East Fairmount, City.
George S. Huntington, 245 Brown street.
Prof. Wm. Colvin, Walnut Hills, City.
Dr. H. H. Hill, corner Fifth and Race Streets.

Mineralogy.

Dr. R. M. Byrnes, south-east corner Fifth and Race streets.
Dr. J. H. Hunt, 41 East Third street.
Prof. E. S. Wayne, 146 Broadway.
Prof. J. W. Hall, Jr., Covington, Ky.
Prof. R. B. Warder, North Bend, Ohio.
Prof. J. B. Chickering, 253 West Seventh street.
Dr. G. M. Allen, 102 Clark street.
Prof. Wm. Colvin, Walnut Hills, City.
Dr. H. H. Hill, corner Fifth and Race streets.

Microscopy:

Hon. Jacob D. Cox, 103 Broadway.
Dr. J. A. Thacker, 121 West Seventh street.
Dr. J. H. Hunt, 41 East Third street.
Frederick Eckstein, Jr., 136 Broadway.
Dr. J. C. Mackenzie, 163 West Seventh street.
Dr. E. W. Walker, 268 Elm street.
Dr. S. M. Hart, north-east corner Seventh and Mound streets.
Dr. G. M. Allen, 102 Clark street.
Dr. A. B. Thrasher, 94 West Seventh street.

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Dr. F. Kebler, 137 West Eighth street.
Prof. Joseph Eichberg, M. D., Miami Medical College.
V. T. Chambers, Covington, Ky.
Dr. Robert Sattler, 64 West Seventh street.
Dr. E. E. Sattler, Cincinnati Hospital.
Dr. W. A. Dun, Cincinnati Hospital.

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LITERARY, SOCIAL, AND ART INSTITUTIONS.

THE LITERARY CLUB.

This club was established in 1849. It consists, at present, of about one hundred members, to which number it is limited by its constitution. It is a social club, with the special aim of promoting the literary and mental improvement, as well as entertainment, of its members. It meets every Saturday evening through the months from October to June; and at each meeting some member reads an essay or discourse on a subject selected by him; but this is not compulsory. All matters of general interest, in literature, history, science, political economy, law, etc., become, in turn, the subjects of discussion in these papers. Amongst the members of the club are gentlemen eminent for their ability and learning. As social gatherings the meetings are particularly attractive to its members, and their interest is often increased by the visits of distinguished strangers and travelers temporarily in the city. The records of the club, during an existence of more than thirty years, show, amongst nearly five hundred names, those of many conspicuously known to the nation in its legislative, judicial, and executive departments, and in its armies.

Officers for 1880–81.

P. Mallon,	President.
R. F. Leaman,	Vice-President.
E. R. Donohue,	Secretary.
T. M. Hinkle,	Treasurer.
Alexander Hill,	Clerk.

Trustees.

John A. Woods, R. H. Warder,
Joseph Wilby.

Honorary Members.

R. B. Hayes. S. E. Wright.

As the meetings of the club are suspended during July, August, and September, their handsome rooms on Fourth street are at present closed.

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UNIVERSITY CLUB.

The University Club of Cincinnati was organized in November, 1879, by a number of college graduates, to enlarge the acquaintance between college men in the city, and to promote the spirit of sociality between them.

A Club House, No. 122 W. Seventh street, was rented and furnished with parlors, reading, lunch, card, and billiard rooms in the following month, and the club entered the first year of its existence with a membership of about one hundred and twenty-five. Most of the prominent newspapers and periodicals are to be found upon the files of the reading-rooms, and, in addition, a fine nucleus of a reference library. The success of the club, both financially and socially, has been such as to induce the Board of Management to lease the more commodious building, No. 165 W. Seventh street, for a Club House, after the first of next November. According to the constitution: "Any person of good moral character, who has been graduated from, or been connected for two years in good standing with, a college or university, the United States Military or Naval Academy, or a similar academy of any government, shall be eligible as a member."

The initiation fee is twenty-five dollars; the annual dues, a like amount. The present Board of Management consists of the following: President, George Hoadly; Vice-Presidents, A. F. Perry, M. T. Force, W. N. King; Recording Secretary, Russell Hinman; Corresponding Secretary, E. R. Donohue; Treasurer, Arthur Stem; Executive Committee, Walker Hartwell, F. R. Mitchell, John R. Holmes; Committee on Admission, J. T. Stewart, Thos. A. Mack, J. W. Gaff, L. W. Shaffer, Charles Lehmer.

QUEEN CITY CLUB.

This is a social and literary institution, composed of about three hundred leading professional and business men. Its Club House, corner of Seventh and Elm, is one of the most elegant and commodious in the country. It was built and furnished at a cost of about one hundred and seventy thousand dollars, and contains rooms for conversation, chess, billiards, cards, and other games, besides dining and reading rooms. A reception and dining room is reserved for the wives and families of the members. Each member holds at least one share of stock, valued at $250, and pays annual dues of $75, with a credit of $15 as interest on his stock. Five members are elected yearly to serve for three years as a board of management, and this board alone has the right of accepting or rejecting applications for membership. Visitors must be introduced by members. Elm street and Seventh street horse-cars pass the building.

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CINCINNATI GYMNASIUM.

In the summer of 1853, a number of active gymnasts associated themselves as a society and proceeded to carry out their design of establishing a Gymnasium. By calling public attention to the matter, they succeeded in effecting their purpose, and rooms were secured in the old Apollo Building, corner Fifth and Walnut, and supplied with all the principal apparatus then used in a well-appointed Gymnasium.

It soon became evident that the increased membership would require a larger and more convenient hall, and, after occupying the Appollo rooms for seven years, the Association secured rooms in the "Commercial" Building, corner Fourth and Race, which premises, for the same reason, they were, in 1868, compelled to abandon.

They then leased their present quarters, then known as the "St. Lawrence," securing thereby a magnificent Exercising Hall, 120 feet long, fifty feet wide, and 35 feet high, besides additional apartments, which were fitted up as reading rooms, bath rooms, laundry, etc., making the Cincinnati Gymnasium one of the best appointed and most convenient institutions of the kind in the United States.

The present membership numbers 800, and is chiefly composed of professional and business men of the city.

BOARD OF DIRECTORS.

Hon. E. P. Bradstreet,	President.
Victor Abraham, Esq.,	Vice-President.
Hon. L. M. Dayton,	Treasurer.
Henry L. Smith, Esq.,	Secretary.
Hon. M. F. Wilson,	
Hon. M. F. Force,	
Jas. S. Wayne, Esq.	
E. W. Murphy,	Superintendent.

The Gymnasium extends a cordial invitation to every member of the A. A. A. S. to visit their institution and make use of the rooms as they feel inclined. Rooms: No. 102 Fourth street, north side, between Vine and Race.

ROOKWOOD POTTERY,

Built and owned by Mrs. Maria Longworth Nichols, is situated at No. 207 Eastern avenue. This is strictly a private enterprise for the encouragement of the art, and has already acquired an enviable reputation for its wares, samples of which may be seen at John A. Mohlenhoff's, No. 46 and 48 West Fifth street. It is proposed to organize a class of students (number limited to 50), who will receive instruction

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in Painting and Modeling. The Pottery will be open daily, except Sundays, from 2 to 5 P. M., during the stay of the A. A. A. S. Take East End horse-cars.

THE POTTERY CLUB

Was organized in the Spring of 1879. It is an association of ladies of artistic tastes, for the promotion of matters pertaining to the decorative arts.

The members are as follows:

Miss M. Louise McLaughlin, ...	President.
Miss Clara C. Newton, ...	Secretary.
Miss Alice B. Holabird, ...	Treasurer.

Mrs. E. G. Leonard,	Miss Florence Carlisle,
Mrs. Charles Kebler,	Miss Agnes Pitman,
Mrs. George Dominick,	Miss Fannie M. Banks,
Mrs. Walter Field,	Mrs. Andrew B. Merriam.

Honorary Members.

Mrs. M. V. Keenan, Miss Laura Fry,
Miss Elizabeth Nourse.

The Club occupies rooms at the Rookwood Pottery, which is open to visitors on Friday afternoons, between 2 and 5 o'clock.

THE ETCHING CLUB,

Which dates its existence from 1878, is an association composed chiefly of amateurs, who meet weekly, or semi-monthly, at the Art Rooms in the Music Hall Building. The Club possesses its own press, which is constantly in use by its members. Art matters in general, and etching in particular, are discussed at its meetings. The Club has no formal organization. Its members are as follows:

Dr. D. S. Young,	A. J. Winslow,
George McLaughlin,	Miss M. T. Davis,
Miss M. Louise McLaughlin,	Herman Ahlers,
Albert Evans,	H. F. Farny,
Miss Nettie Wilson,	Will Drake,
E. K. Foote,	Col. A. L. Anderson,
Miss Fletcher,	Miss Caroline Lord,
Jerry Cady,	Miss Williamson,
Miss Laura Fry,	R. H. Warder,
Dwight Huntington,	Emery H. Barton,
J. H. Sharp,	Edward Gaffney,

Dr. Edward A. Patton.

In connection with art matters should be mentioned the Wood-

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Carving School of Mr. Henry L. Fry, No. 70 West Fourth street; and the picture galleries of Wm. Wiswell, No. 70 West Fourth street, P. Smith & Co., No. 56 West Fourth street, and A. B. Closson, Jun., No. 186 West Fourth street; also the art store of Mr. Emery H. Barton, No. 24 and 26 Arcade.

PRIVATE ART COLLECTORS.

Paintings.

Joseph Longworth,
Henry Probasco,
George Hoadly,
George K. Schoenberger,
Reuben R. Springer,
Wm. S. Groesbeck,
John L. Stettinius,
L. B. Harrison,
W. W. Scarborough,
Nathaniel W. Baker.

Engravings.

William Karrman,
J. LeBoutillier,
S. C. Tatem,
Wm. Henry Davis,
George McLaughlin.

Bronzes.

Erasmus Gest.

Etchings.

Dr. D. S. Young. (See also Etching Club.)

Numismatics.

Thomas Cleneay, 444 West Sixth street.
T. B. Disney, N. E. corner Third and Main streets.
W. J. Prescott, 98 Barr street.
Jas. A. Hughes, corner Central Avenue and Fourth street.

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PUBLIC EDUCATIONAL INSTITUTIONS.

UNIVERSITY OF CINCINNATI (*See ante.*)

SCHOOL OF DESIGN (See University—*ante.*)

COLLEGE OF MUSIC.

The College of Music of Cincinnati was incorporated in 1878, with a capital stock of fifty thousand dollars, its stockholders being composed of a number of gentlemen distinguished for their public spirit and æsthetic tastes. Its objects, as stated in the act of incorporation, are as follows: "To cultivate a taste for music; and, for that purpose, to organize a school of instruction and practice in all branches of musical education; the establishment of an orchestra; the giving of concerts; the production and publication of musical works, and such other musical enterprises as shall be conducive to the ends above mentioned." The faculty comprises about thirty-five professors, all eminent in their respective specialties. It has enrolled over six hundred pupils, many of whom have already a well-earned reputation for their superior attainments.

Its officers are as follows:

George Ward Nichols, ... President.
A. T. Goshorn, ... Vice-President.
William Worthington, . Secretary and Treasurer.
Jacob D. Cox, I. Burnet Resor, R. R. Springer,
Peter Rudolph Neff, ... Directors.

The College is located in the Music Hall building, corner Elm and Fourteenth streets.

CINCINNATI COLLEGE.

Cincinnati College was established in 1819; and a Lancaster school, organized in 1815, was merged into it. About $40,000 had been subscribed for the foundation of a college and the erection of a college-building; but, by reason of bank troubles, much of the subscription was never paid.

The building was burned in 1845, and shortly afterwards rebuilt, largely by aid of the Young Men's Mercantile Library Association,

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which, in consideration of its aid, holds a perpetual grant of its rooms on the second floor of the building. In 1869, after the building was again damaged by fire, it was remodelled into its present shape. The College holds a very liberal charter, containing a restriction only against the teaching of denominational theology. The government is vested in a board of trustees, elected yearly by the shareholders. The capital is $125,000, in shares of $25 each. The value of the property is about $200,000. The income is about $10,000, and is used chiefly to support the Cincinnati Law School and its library. The building is popularly known as the College Building. The president is Bishop Thomas A. Jagger, and the secretary A. H. McGuffey.

THE CINCINNATI HOSPITAL.

The Cincinnati Hospital is one of the largest, most convenient, attractive, and best managed hospitals in the country. It consists of eight distinct buildings, each three stories in height, connected by open corriders and through the basement. The buildings and grounds occupy the entire square bounded by Twelfth, Central avenue, Ann, and Plum streets. The buildings surround a large court-yard, with an elegant lawn and flower-garden, fountain, and grotto.

The Hospital contains 500 beds; and private rooms are provided for pay patients. It is a city charitable and educational institution, managed by a board of trustees, seven in number. The medical staff consists of fourteen visiting and six resident physicians; the latter receive their positions after a competitive examination, and serve for one year. In the large and well-appointed amphitheatre, capable of seating 400 persons, daily clinical lectures are given, from September to March, which are open to all medical students, on payment of five dollars per session. There is also a fine medical library of over 4,000 volumes connected with the hospital, and open to the medical profession and students without charge.

Strangers and friends of pay patients are admitted at all times, and friends of charity patients on Thursdays only—unless by special permit. Col. H. M. Jones is Superintendent. Twelfth street horse-cars pass the entrance, and the John street and Elm street lines pass within two squares.

SCHOOL FOR DEAF MUTES.

This school was established by the Cincinnati Board of Education, in November, 1875, with Mr. R. P. McGregor as Principal. The method of instruction is that of the Sign Language and the Manual Alphabet. The course of study requires about seven years. Forty pupils were enrolled during the year 1880–81. The location is in the Third Intermediate School-House, on Franklin street.

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THE CINCINNATI NORMAL SCHOOL.

The Normal School was organized in 1868; its object is the preparation of teachers for the public schools of Cincinnati. Graduates of the High Schools are admitted without examination. The location, in the Eighth District School-House, affords convenient facilities for the practice department.

The instruction is largely practical; and the professional work includes Methods of Teaching, School Management, School Law, Mental Philosophy, History of Education, and actual teaching and management of classes. This is the only normal school in the United States which possesses a German Department. Mr. John Mickelborough is the Principal.

HIGH SCHOOLS.

Woodward High School.

FRANKLIN STREET, BETWEEN SYCAMORE AND BROADWAY.

In 1826, Wm. Woodward, under the advice of his attorney and valued friend, Samuel Lewis, Esq., resolved to set apart a certain portion of his property for the founding of a free High School.

In 1830, a school-house having been erected on the north-east corner of the present lot, the school was formally opened in the fall of 1831. In 1837, it was chartered as a college and high school, and continued under this charter until 1851, when, through the efforts of Samuel Lewis, Nathan Guilford, and others, a joint agreement was entered into between the city and the trustees of the Woodward and Hughes funds, by which agreement the funds were combined, and two high schools established, known as the Woodward and Hughes High Schools, to be governed and controlled by a Union Board, consisting of five delegates from the Trustees of the Woodward fund, two from the Hughes, and six elected annually from the Common School Board. This arrangement has continued for thirty years, during which time over six thousand boys and girls have successfully passed the annual examination, and have been enrolled as students of the Woodward High School.

The present value of the Woodward building, lot, library, apparatus, etc., is $140,000. The other property belonging to the school is leased to different parties, and is subject to revaluation every fifteen years. The present value is about $200,000, and the annual income about $10,000.

Wm. Woodward died in 1833, having lived long enough to see the school which he founded in successful operation.

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Hughes High School.

FIFTH STREET, OPPOSITE MOUND.

In the northern suburbs of Cincinnati, on an adjoining farm to Wm. Woodward, lived his friend Thomas Hughes, who was moved by the example of Mr. Woodward to leave in his will a certain amount of property for a similar purpose.

The plan of Mr. Hughes was different from that of Mr. Woodward. He bequeathed the property to trustees, to be held in trust until the income should be sufficient to erect a suitable building. These trustees leased the property on perpetual ground rent, not subject to revaluation, so that the yearly income is only about $2,000.

By the joint arrangement with the city and the Trustees of the Woodward fund in 1851, the school was formally established under the name of the Hughes High School. The school was the immediate successor of the Central High School, which had occupied a building on Longworth street for several years prior to 1851, which school was under the immediate control of the Common School Board.

In 1853, a new building having been erected on Fifth street, opposite Mound, the school took formal possession. The present enrollment is over six hundred, and the value of the building, lot, library, apparatus, etc., is about $100,000.

DISTRICT OR COMMON SCHOOLS.

For the education of the youth of the city, Cincinnati provides forty-two district or primary, four intermediate, and two high-school buildings. Between six and seven hundred teachers are employed, at salaries ranging from $400 to $2,600 per annum. The periods of attendance required are, six years in the district, three in the intermediate, and four in the high schools. After graduation from the high schools, students may enter the University without re-examination. The schools are governed by a Board of Education, consisting of twelve "members at large" and twenty-five "members," . . which also control the Public Library, the Normal School, and the School for Deaf Mutes. Night schools are held in fifteen districts, three being for colored pupils. The public schools are supported by a tax, which requires about $700,000 per year. About 37,000 pupils are enrolled. Mr. John B. Peaslee is Superintendent; residence, Gibson House.

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LIBRARIES.

PUBLIC LIBRARY.

The Public Library of Cincinnati is situated on the west side of Vine street, between Sixth and Seventh, and is one of the best arranged and most flourishing institutions of the kind in the country. The building is fire-proof, and cost, with the ground, $400,000. It contains about 125,000 volumes, and 20,000 pamphlets, a large proportion of which are of a scientific nature, and in the medical department are 5,000 volumes donated by Prof. W. H. Mussey, M.D. The art department contains a copy of the original elephant folio edition of Audubon's Birds of America. About $60,000 is spent annually for the maintenance of the Library, $18,000 of which is expended for books alone. The Library and Reading Rooms are open daily from 8 A.M. to 10 P.M., and are free to all. Mr. Chester W. Merrill is Librarian.

THE YOUNG MEN'S MERCANTILE LIBRARY ASSOCIATION.

This is a well-selected library of about 40,000 volumes and 5,000 pamphlets; in its Reading Room are over 200 papers and periodicals from all parts of the world. The rooms—situated in College Building, on Walnut, above Fourth—are comfortably fitted up and ornamented with statuary, paintings, etc., and are open daily from 8 A. M. to 10 P. M. Strangers admitted. Henry J. Page is President, and John M. Newton Librarian.

THE CINCINNATI LAW LIBRARY

Was chartered in 1834, and organized in 1846. It contains about 10,000 volumes, and is one of the most conveniently arranged and most complete law-libraries in the country. The rooms are in the Court House, and open to members, introduced strangers, and to the Senior Class of the Cincinnati Law School.

HISTORICAL AND PHILOSOPHICAL SOCIETY.

(See page 8.)

CINCINNATI SOCIETY OF NATURAL HISTORY.

108 Broadway. A good collection of proceedings of scientific bodies and works on the Natural Sciences.

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CINCINNATI HOSPITAL LIBRARY.

A large and fine collection of rare Medical works and periodicals. Twelfth street, between Central Avenue and Plum.

COLLEGE OF PHARMACY.

South-west corner Fifth and John streets. A good Botanical and Pharmaceutical Library.

PRIVATE LIBRARIES.

ROBERT CLARKE—
Bibliography, History of Literature, Science, Scottish History and Poetry.

PETER G. THOMPSON—
Ohio History and Bibliography.

A. GUNNISON—
Art.

HON. A. T. GOSHORN—
Biographical, Historical, and General. This library, consisting of several thousand volumes, with its appropriate furniture, is a testimonial from the citizens of Philadelphia, in recognition of General Goshorn's services as Director General of the International Exhibition of 1876.

HENRY PROBASCO—
A collection of ancient and rare works.

REV. THOMAS SKINNER, D.D.—
Theological.

E. T. CARSON—
Masonic and Shakespearean.

HON. J. B. STALLO—
Philosophical.

HON. STANLEY MATTHEWS—
Law, Science, and Theology.

GEORGE MCLAUGHLIN—
Historical and Art.

HON. M. F. FORCE—
North American Indians.

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T. D. Lincoln—
Law.

C. F. Low—
Americana.

E. C. Dawes—
American Rebellion.

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PARKS AND CONSERVATORIES.

Eden Park—East end of city. Take Walnut Hills horse-cars, marked "Park Avenue."

Burnet Woods Park—Near Clifton. Take Elm street horse-cars.

Lincoln Park—Corner Freeman and Hopkins street. Take Seventh street cars.

Washington Park—Elm and Twelfth streets. Take Elm street cars.

City Building Park—Corner Eighth and Plum. Take Seventh street cars.

Eighth Street Park—Eighth street, from Vine to Elm.

Spring Grove Cemetery—North of city. Take Sixth street and avenue horse-cars; or C., H. & D. R. R.

Longview Asylum—North of city. Take C., H. & D. R. R. to Carthage.

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2. Ohio & Mississippi R. R. Depot.
3. Plum Street R. R. Depot.
4. Little Miami R. R. Depot.

HOTELS.

5. Grand Hotel. (Headq'rs A. A. A. S.)
6. Burnet House.
7. Gibson House.
8. St. James Hotel.
9. St. Nicholas Hotel.
10. Keppler's Hotel.
11. Carlisle House.
12. Crawford House.
13. Arlington Hotel.
14. Walnut Street House.
15. Galt House.
16. Hunt's Hotel.
17. Henrie House.
18. Broadway Hotel.
19. Indiana House.
20. Madison House.
58. Hotel Emery.
59. Florentine Hotel.
61. Queen City Hotel.

THEATERS.

21. Grand Opera House.
22. Pike's Opera House.
23. Robinson's Opera House.
25. National Theater.

PARKS AND GARDENS.

26. Burnet Woods Park.
27. Eden Park and New Reservoir.
28. Lincoln Park.
29. Washington Park.
30. City Park.
31. Water Works Park and Old Reserv'r. Zoological Garden, N. E. of Burnet Woods.

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33. Public Library of Cincinnati.
34. Young Men's Mercantile Library.
35. Cincinnati Commercial Hospital.
36. Good Samaritan Hospital.

CHARITABLE INSTITUTIONS.

37. House of Refuge.
38. City Work House.
39. Young Men's Christian Association.
40. Cincinnati Orphan Asylum.
41. Cincinnati Union Bethel.

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42. Wesleyan Female College.
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American Association for the Advancement of Science.

NOTICE.

Referring to the circular of the Local Committee for the meeting at Montreal, it should be said that the Steamers of the Richelieu and Ontario Navigation Co., as well as those of the St. Lawrence Navigation Co., take passengers from the west down the Rapids of the St. Lawrence to Montreal. The former is the old and long-established line.

The paper circulated as a "SUPPLEMENTARY CIRCULAR OF THE LOCAL COMMITTEE," respecting this line of Steamers, and bearing my name, was issued *without my knowledge or authority.*

T. STERRY HUNT,
Chairman.

MONTREAL, *August 9, 1882.*

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American Association for the Advancement of Science.

SUPPLEMENTARY CIRCULAR

OF THE

LOCAL COMMITTEE

For the Meeting at Montreal, Aug., 1882.

To avoid misapprehension from the wording of our Circular, it should be understood that the Richelieu & Ontario Navigation Co. is the old and reliable line which has, for the last 40 years, shot the rapids and brought Tourists down the St. Lawrence to Montreal; there can be nothing gained by using any other line than this by members coming from the West, from New-York State or Niagara Falls.

T. STERRY HUNT, L.L.D., F.R.S,
Chairman.

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American Association for the Advancement of Science.

Montreal Meeting, August 23, 1882.

BLANK FOR TITLE AND ABSTRACT OF COMMUNICATION.

No. *Section*

Title of Paper:

Time *minutes.*

Name and address of author:

By instructions of the Standing Committee, Titles of papers *will not* be put on the list of papers offered unless abstracts are received. Authors will, therefore, please write their abstracts on the sheets containing the titles of their papers. The Committee also request that the titles and abstracts be sent to the *Permanent Secretary* at an early day, at least *one week before the meeting* when practicable.

☞ Authors will please take note that the abstract of a communication is very likely to be accepted by the Standing Committee for publication in the volume, and the MSS. should therefore be prepared ready for publication.

Should other paper be used it should be cut or folded to the size of this page which must contain the title, etc., of the communication and given in with the abstract.

Copies of this blank can be had of the *Permanent Secretary*. Address F. W. PUTNAM, *Permanent Secretary*, SALEM, MASS.

ABSTRACT OF PAPER ENTERED ABOVE:

[Continued over.

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

HARTFORD, CT.	9.10.	
SPRINGFIELD, MASS.	9.00.	Connecticut River Railroad Depot.
GREENFIELD, MASS.	8.00.	" "
NEW LONDON, CT.	10.00.	New London Northern Railroad Depot.
AMHERST, MASS.	8.20.	" " "
BELLOWS FALLS, VT.	7.25.	Central Vermont Railroad Depot.
WHITE RIVER JUNCTION,	6.40.	" "
PROVIDENCE, R. I.	10.35.	Providence and Worcester Railroad Depot.
WORCESTER, MASS.	9.00.	41 Washington Square. Chas. Lalime, Agent.
" "	9.00.	Union Depot.
BOSTON, MASS.	9.00.	260 Washington St., T. Edward Bond, Ticket Agent.

Office at MONTREAL, 136 St. James St., A. C. STONEGRAVE, Can. Pass. Agent.

General Offices, - - ST. ALBANS, VERMONT.

W. F. SMITH, Gen. Eastern Pass. Agent.

J. W. HOBART, General Superintendent. **S. W. CUMMINGS, General Passenger Agent.**

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NEW YORK and MONTREAL.

AIR LINE, via TROY AND ST. ALBANS.

THIS popular route lies along the banks of the Hudson, affording a succession f enchanting views of this picturesque river, together with the grander scenery f the Catskills. From Albany, the road is via Troy and Bennington, of Revo- ıtionary fame, Manchester, Vt., the famous summer resort, noted for its pure nd invigorating air, fine scenery, and trout-fishing.

Rutland is surrounded by numerous attractions, chief of which are the immense ıarble quaries; with the various shops for manufacturing the same, including the ›onderful work produced with the sand-blast. Clarendon Springs are about ight miles from Rutland, with good hotel accommodations. Killington Peak and ft. Ida are attractive drives, and afford extensive views of this portion of the ›reen Mountain State. From Rutland the road follows the valley of the Otter :iver, passing Brandon and Middlebury, soon after which views are obtained of .ake Champlain, with its numerous islands, beyond which rise the towering peaks f the Adirondacks.

Passenger Coaches run between Troy and Montreal, without change.

NEW YORK and MONTREAL.

Via CONNECTICUT RIVER LINE.

THIS route has many attractions, including Hartford, Springfield, Mt. Holyoke, Deerfield, Windsor for Mt. Ascutney; also, Waterbury, from which station Mt. Mansfield (4,348 feet high) is easy of access; St. Albans, the station from which a side trip of nine miles to Sheldon Springs can be made. Highgate Springs is on the direct line.

Trains leave NEW YORK from GRAND CENTRAL DEPOT.

To Montreal Read Down.					To New York Read Up.
†4.30 PM		Lve. New York Arr.	10.30 PM	11.59 AM	
6.28 "	*4.45 AM	New Haven	8.34 "	9.30 "	
7.25 "	6.35 "	Hartford	7.32 "	8.25 "	
8.00 "	7.35 "	Arr. Springfield Lve.	6 54 "	7.25 "	
8.00 "	8.00 "	Lve. Springfield Arr.	6.40 "	6.30 "	
9.20 "	9.35 "	Greenfield	5.35 "	5.13 "	
12.10 AM	12.40 PM	Windsor	3.10 "	2 25 "	
12.55 "	1.30 "	White River Junc.	2.35 "	1.55 "	
3.45 "	3.30 "	Waterbury	12.38 "	11.00 PM	
5.55 "	5.00 "	St. Albans	11.20 AM	9.15 "	
6.21 "	5.26 "	Highgate Springs	10.38 "	8.37 "	
8.25 AM	7.20 PM	Arr. Montreal Lve.	§9.00 AM	‡6.30 PM	

*Day Express to Montreal has passenger coaches from Springfield to St.

‡Night Express from Montreal has Pullman Sleeping-Car to

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BOSTON and MONTREAL.

AIR LINE, via LOWELL.

THIS old and reliable line, always the pioneer in improvements, has recently inaugurated the **TEN HOUR LIMITED DAY EXPRESS**, which saves to the traveler from one-and-a-half to four hours time over all other lines.

The route is via Lowell, noted for its huge carpet and cotton-mills, thence up

BOSTON and MONTREAL.

Via FITCHBURG.

The attractions of this route include Concord, Mass., which shares with Lexington the honor of being the initial point of the Revolution. Blood was shed here on the memorable 19th of April, 1775. Walden Pond is a picturesque sheet

PROVIDENCE, WORCESTER and MONTREAL.

Via NASHUA.

The route is via Woonsocket and Uxbridge to Worcester, thence by Clinton and Ayer Junction to Nashua, Concord R. R. Junction; thence the line is the same as that from Boston via Lowell, which is given above.

Read Down.						Read Up.
4.05 PM	6.30 AM	Lve. Providence Arr.	11.30 AM	.....	
4.52 "	7.00 "	Woonsocket	10.57 "	.....	
6.30 "	8.00 "	Worcester	9.25 "	.....	
7.16 "	8.31 "	Clinton	8.31 "	.....	
8.18 PM	9.30 AM	Arr. Nashua (Concord R.R. Jc.) Lve.	7.05 AM	.....	

For Palace Car service see Boston line.

PROVIDENCE, WORCESTER and MONTREAL.

Via WINCHENDON.

This line is via Woonsocket and the Blackstone Valley to Worcester, Holden, Princeton and Gardner to Winchendon, where connection is made with the above line from Boston, via Fitchburg.

Read Down.						Read Up.
.....	6.30 AM	Lve. Providence Arr.	9.15 PM	.....	
.....	7.00 "	Woonsocket	8.32 "	.....	
.....	8.05 "	Worcester	6.20 "	.....	
.....	9.02 "	Princeton	5.37 "	.....	
.....	9.25 "	Gardner	5.05 "	.....	
.....	10.00 AM	Arr. Winchendon Lve.	4.28 PM	.....	

For Palace Car Service see Boston line.

DINING-ROOMS are located at TROY, N. Y., RUTLAND, SPRINGFIELD, PALMER, WHITE RIVER JUNCTION, and ST. ALBANS, where first-class Meals are furnished at reasonable prices.

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PLEASE REMEMBER THAT THE

CENTRAL VERMONT RAILROAD LINE

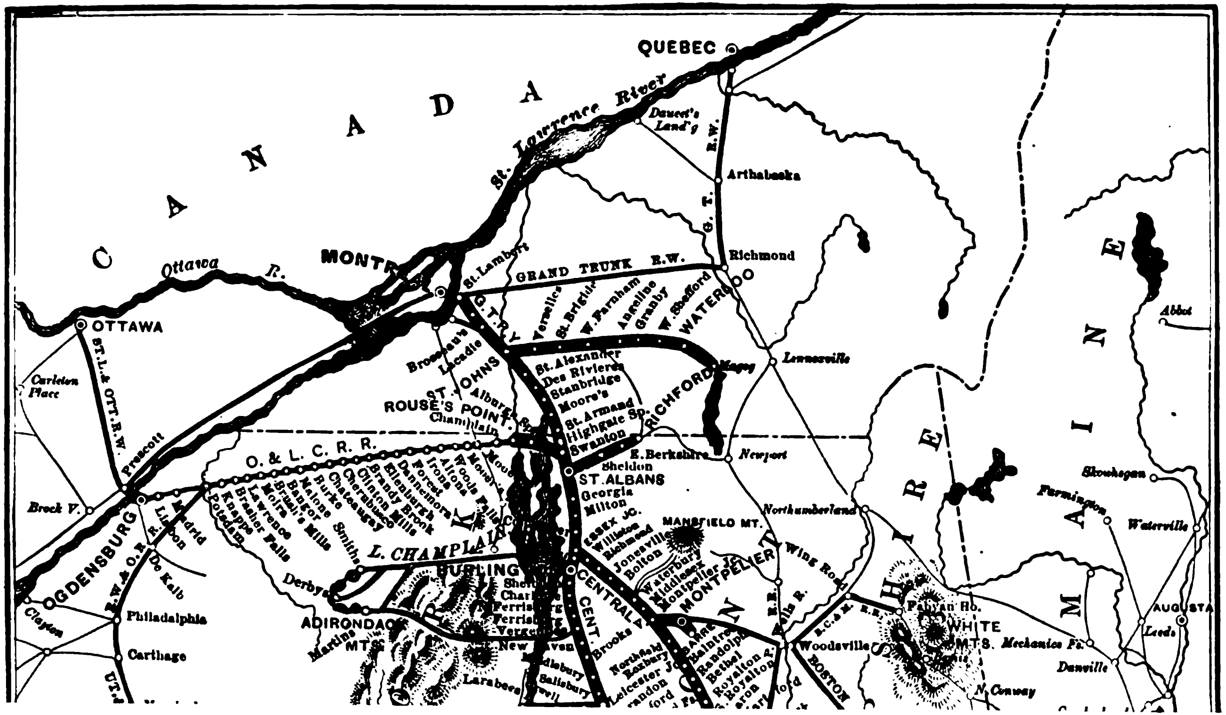
OFFERS MORE ATTRACTIONS AND BETTER ACCOMMODATIONS THAN ANY OTHER.

Hudson River.

Merrimac River.

Mt. Holyoke.

Mt. Mansfield.



Connecticut River

Winooski River.

Mt. Monadnock.

Mt. Ascutney.

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in the Cincinnati volume, as a revised edition of the list will be printed for circulation at the Montreal meeting.

The Cincinnati volume (vol. 30) will soon be distributed by mail to every member who has paid the assessment for that meeting. Members paying back assessments before the Montreal meeting will receive their volumes by mail (so far as they can now be supplied). If the arrearages are paid at Montreal the back volumes will be forwarded *after* the meeting.

The volumes of the Proceedings of the Association can be obtained from the Permanent Secretary, at the price of $1.50 a volume; or any member wishing for ten or more volumes, in order to complete a set, may obtain them at $1.00 a volume. The volumes may be had bound in cloth for the extra price of 50 cts. each, or in one-half morocco for the extra price of $1.00 each. Uniform cloth covers for the volumes will be furnished by mail at 30 cts. each, or by express for 25 cts. each. Copies of Volumes 2, 26, and 27 will be received in exchange for other volumes or will be purchased at $1.00 each. At present these three volumes can only be furnished to Members, or on orders, as they are obtained.

The Memoir on Fossil Butterflies, by Mr. S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, 4to, 1875, will be furnished at $2.00 a copy. The Transactions of the Association of Geologists and Naturalists, 1 vol., 8vo, 1843, bound in cloth, can be obtained at $3.00 a copy.

At the Boston Meeting the Standing Committee called attention to the importance of reprinting several volumes of the Proceedings of the Association, but stated that this could not be done without the liberal assistance of members and others interested, and asked for subscriptions for this purpose. As full sets of the Proceedings are in demand, particularly in consequence of the late increase in membership, it is hoped that the necessary means will be secured for this purpose. The reprinting of three volumes is now desirable, and of two others only a small number of copies remain. Subscriptions of any amount are therefore earnestly solicited, and all such will be acknowledged by the *Permanent Secretary* by letter, and also in a printed list of subscribers. The secretary has the pleasure of stating that $1,250 has already been received from members for this purpose.

Members not intending to be present at Montreal are particularly requested to send their assessments in advance, and to those who specially request it a copy of the Montreal Daily Programme will be mailed.

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ART. 36. Any member or fellow who shall pay the sum of fifty dollars to the Association, at any one time, shall become a Life Member, and as such shall be exempt from all further assessments, and shall be entitled to the Proceedings of the Association. All money thus received shall be invested as a permanent fund, the income of which shall be used only to assist in original research, unless otherwise directed by unanimous vote of the Standing Committee.

ART. 37. All admission fees and assessments must be paid to the Permanent Secretary (or his Assistant), who shall give proper receipts for the same.

ART. 28. All members and fellows must forward to the Permanent Secretary, as early as possible, and when practicable before the convening of the Association, full titles of all the papers which they propose to present during the meeting, with a statement of the time that each will occupy in delivery, and also such abstracts of their contents as will give a general idea of their nature; and no title shall be referred by the Standing Committee to the Sectional Committee until an abstract of the paper or the paper itself has been received.

ART. 25. A paper shall not be read in any Section or Subsection until it has been received from the Standing Committee and placed on the programme of the day by the Sectional Committee.

☞ The receipt of a *Title of a Paper* simply, is not sufficient to secure its being placed on the printed list of Papers received, and it is particularly requested that the abstracts be prepared *ready for printing* in the volume of Proceedings. Blank forms for giving the titles and abstracts of papers will be furnished by the Permanent Secretary on application. The Standing Committee particularly request, in order to facilitate the arrangement of the programme, that the titles and abstracts should be forwarded so as to reach the Permanent Secretary *before August twentieth.*

*** At the last meeting of the Standing Committee it was determined to adopt the plan of *printing abstracts of all the papers read* before the Sections in the Proceedings, beginning with the Montreal meeting; unless by a special vote, on recommendation of a Sectional Committee, it should be decided to print the paper by title only, or, in exceptional cases, in full.

Notice of errors in the printed list of Members of the Association, of change of address, and information respecting the decease of Members, should be sent at once to the Permanent Secretary in order that due notice may be taken of the same in the next volume of "Proceedings." It is particularly requested that the Permanent Secretary be notified of any errors in the names and addresses given

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COMMITTEE ON INVITATIONS AND RECEPTION.

Chairman—Dr. T. STERRY HUNT,
Secretaries—S. C. STEVENSON, F. W. HICKS.

COMMITTEE ON FINANCE.

Chairman—F. WOLFERSTAN THOMAS.
Secretary—J. STEVENSON BROWN.
Treasurer—R. MOAT.

COMMITTEE ON CONVEYANCE, ENTERTAINMENTS AND EXCURSIONS.

Chairman.— Dr. W. H. HINGSTON.
Secretary.—Prof. BOVEY.

COMMITTEE ON HOTELS, LODGINGS AND LUNCHEONS.

Chairman.— CHARLES GARTH.
Secretary.— J. BEMROSE.

COMMITTEE ON ROOMS AND PLACES OF MEETING.

Chairman.—Dr. W. OSLER.
Secretary.—Prof. C. H. MCLEOD.

COMMITTEE ON PRINTING AND PUBLICATION.

Chairman.— S. E. DAWSON.
Secretary.— W. R. SALTER.

The Annual Meeting of the SOCIETY FOR THE PROMOTION OF AGRICULTURAL SCIENCE will be held at the rooms of the Natural History Society, Montreal, on August 21st and 22nd.

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days. Its members will register their names at the St. Lawrence ...

OFFICERS OF THE

LOCAL COMMITTEE

FOR THE MONTREAL MEETING.

EXECUTIVE COMMITTEE.

CHAIRMAN.

T. STERRY HUNT, LL. D., F. R. S.

SECRETARIES.

S. C. STEVENSON, B. A., FRANK W. HICKS, M. A.

TREASURER.

R. MOAT.

SPECIAL COMMITTEES.

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is altogether inadequate for so large an influx of visitors as is looked for during the meeting of the Association, and it is expected that a large number of the members present will be guests of citizens during the meeting. A special committee charged with this duty will arrange for the entertainment of others, and will be ready to furnish information during the month of August. All inquiries relating to the procuring of lodgings should be addressed as soon as possible to Mr. J. Bemrose, Secretary, Natural History Society, Montreal, to whom members intending to be present at the meeting are requested to send their names as soon as convenient. Mr. Bemrose will endeavor to advise members, before their arrival, of the quarters assigned to them.

The following are the rates offered by the principal hotels:

Windsor, $3.50 to $5.00; table-board, $2.50.
St. Lawrence Hall, $2.50 to $3.50.
Richelieu, $1.50.
Canada, $1.50 and $2.00.
Albion, $1.50.
St. James, $1.50 to $2.00.
American, $1.50.

A descriptive and illustrated hand-book of Montreal is in preparation for the use of members of the Association.

☞ The Annual Meeting of the SOCIETY FOR THE PROMOTION OF AGRICULTURAL SCIENCE will be held at the rooms of the Natural History Society, Montreal, on August 21st and 22nd.

☞ The AMERICAN FORESTRY CONGRESS will also hold its meeting at Montreal on the same days. Its members will register their names at the St. Lawrence Hall.

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mentioned rates, [illegible]
to persons presenting a certificate of membership of the Association for 1884. The following are [illegible] some principal points on the above-mentioned railroad lines in the United States may serve as a guide to members :—Albany, Binghampton, Boston, Chicago, Detroit, New York, Portland, Providence, Saratoga, Springfield, Troy, Worcester.

The excursions to Ottawa and Quebec by the Quebec, Montreal, Ottawa and Occidental R.R., that to Lake Memphremagog by the South Eastern R.R., and also one to Lachine by the Grand Trunk R.R., are given by these lines free of charge.

Through the liberality of the Western Union and the Great North Western Telegraph Companies, telegraphic messages relating to family, social or scientific matters, will be sent from Montreal during the meeting, for members of the Association, free of charge, to all parts of the United States and Canada.

The Canadian, the National, and the United States and Canada Express Companies will undertake to forward and deliver promptly, free of charge, all parcels of books, drawings, instruments, or specimens of natural-history for the use of members of the Association at the Montreal meeting, and will return the same at the lowest rates. The parcels should be addressed to the "*Care of Prof. Bovey, A. A. A. S., McGill College, Montreal,*" and should have their contents marked on the outside. By the courtesy of the Collector of Customs such objects will be admitted from the United States free of duty.

Omnibuses will convey members with their baggage from the stations and wharves to any part of the city for twenty-five cents. There will also be omnibuses plying between the College and the principal hotels for a fare of ten cents. All these omnibuses will be marked A.A.A.S.

A daily luncheon will be furnished in a temporary building in the College grounds. A list of rates at hotels is given below, but the hotel-accommodation in Montreal during the summer season

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SPECIAL COMMITTEES.

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PROGRAMME

OF THE

THIRTY-FIRST MEETING

OF THE

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

COMMENCING WEDNESDAY, AUGUST 23,

AND

Closing Wednesday, August 30, 1882,

IN

MONTREAL, CANADA.

Montreal:
PUBLISHED BY THE LOCAL COMMITTEE.

1882.

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PROGRAMME

OF THE

THIRTY-FIRST MEETING

OF THE

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

COMMENCING WEDNESDAY, AUGUST 23,

AND

Closing Wednesday, August 30, 1882,

IN

MONTREAL, CANADA.

Montreal:
PUBLISHED BY THE LOCAL COMMITTEE.
1882.

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1882, Sept. 25.

Gift of

Sam'l. H. Scudder.

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OFFICERS OF THE ASSOCIATION.

FOR THE

MONTREAL MEETING.

PRESIDENT.

J. W. DAWSON, of Montreal.

VICE-PRESIDENTS.

A. **Mathematics and Astronomy**—WM. HARKNESS, of Washington.
B. **Physics**—T. C. MENDENHALL, of Columbus.
C. **Chemistry**—H. C. BOLTON, of Hartford.
D. **Mechanical Science**—W. P. TROWBRIDGE, of New Haven.
E. **Geology and Geography**—E. T. COX, of San Francisco.
F. **Biology**—W. H. DALL, of Washington.
G. **Histology and Microscopy**—A. H. TUTTLE, of Columbus.
H. **Anthropology**—DANIEL WILSON, of Toronto.
I. **Economic Science and Statistics**—E. B. ELLIOTT, of Washington.

PERMANENT SECRETARY

F. W. PUTNAM, of Cambridge.

GENERAL SECRETARY.

WILLIAM SAUNDERS, of London, Ontario.

ASSISTANT GENERAL SECRETARY.

J. R. EASTMAN, of Washington.

SECRETARIES OF THE SECTIONS.

A. **Mathematics and Astronomy**—H. T. EDDY, of Cincinnati.
B. **Physics**—CHAS. S. HASTINGS, of Baltimore.
C. **Chemistry**—ALFRED SPRINGER, of Cincinnati.
D. **Mechanical Science**—CHAS. B. DUDLEY, of Altoona. (Will be absent.)
E. **Geology and Geography**—C. E. DUTTON, of Washington.
F. **Biology**—CHARLES S. MINOT, of Boston. (Absent in Europe.)
G. **Histology and Microscopy**—ROBERT BROWN, JR., of New Haven.
H. **Anthropology**—OTIS T. MASON, of Washington.
I. **Economic Science and Statistics**—F. B. HOUGH, of Lowville.

TREASURER.

[WILLIAM S. VAUX, the Treasurer elect, died in May last.]

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MEMBERS

OF THE

STANDING COMMITTEE

FOR THE

MONTREAL MEETING.

Past Presidents.—JAMES D. DANA, of New Haven; JAMES HALL, of Albany; STEPHEN ALEXANDER, of Princeton; ISAAC LEA, of Philadelphia; F. A. P. BARNARD, of New York; J. S. NEWBERRY, of New York; B. A. GOULD, of Boston; T. STERRY HUNT, of Montreal; ASA GRAY, of Cambridge; J. LAWRENCE SMITH, of Louisville; JOSEPH LOVERING, of Cambridge; JOHN L. LECONTE, of Philadelphia; J. E. HILGARD, of Washington; SIMON NEWCOMB, of Washington; O. C. MARSH, of New Haven; GEORGE F. BARKER, of Philadelphia; GEORGE J. BRUSH, of New Haven.

Vice-Presidents of the Last Meeting.—WILLIAM HARKNESS, of Washington; E. T. COX, of San Francisco.

Officers of the Present Meeting.—J. W. DAWSON, of Montreal; WM. HARKNESS, of Washington; T. C. MENDENHALL, of Columbus; H. C. BOLTON, of Hartford; W. P. TROWBRIDGE, of New Haven; E. T. COX, of San Francisco; W. H. DALL, of Washington; A. H. TUTTLE, of Columbus; DANIEL WILSON, of Toronto; E. B. ELLIOTT, of Washington; F. W. PUTNAM, of Cambridge; WM. SAUNDERS, of London; J. R. EASTMAN, of Washington; H. T. EDDY, of Cincinnati; C. S. HASTINGS, of Baltimore; ALFRED SPRINGER, of Cincinnati; C. B. DUDLEY, of Altoona; C. E. DUTTON, of Washington; C. S. MINOT, of Boston; ROBERT BROWN, JR., of New Haven; O. T. MASON, of Washington; F. B. HOUGH, of Lowville.

From the Association at Large.—One Fellow to be elected from each section.

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LOCAL COMMITTEE.

FOR THE

MONTREAL MEETING.

EXECUTIVE COMMITTEE.

CHAIRMAN.

T. STERRY HUNT.

SECRETARIES.

S. C. STEVENSON. FRANK W. HICKS.

TREASURER.

R. MOAT.

Hon. JAMES FERRIER, Hon. THOMAS RYAN, ANDREW ALLAN, Hon. Mr. Justice MACKAY, Hon. J. L. BEAUDRY, Dr. J. W. DAWSON, Chief-Justice DORION, M. H. GAULT, M. P., C. F. SMITHERS, Hon. HY. STARNKS, Hon. P. MITCHELL, Hon. L. O. TAILLON, Hon. W. W. LYNCH, Hon. A. W. OGILVIE, Hon J. A. CHAPLEAU, F. WOLFERSTAN THOMAS, R. MOAT, S. E. DAWSON, W. R. SALTER, CHAS. GARTH, JOHN BEMROSE, Dr. W. H. HINGSTON, Prof. H. T. BOVEY, J. STEVENSON BROWN, THOMAS CRAIG, Dr. W. OSLER, Prof. C. H. MCLEOD.

SPECIAL COMMITTEES.

COMMITTEE ON INVITATIONS AND RECEPTION.

Chairman.—T. STERRY HUNT.

Secretaries.—S. C. STEVENSON, F. W. HICKS.

Hon. P. J. O. Chauveau, Sir H. Allan, G. A. Drummond, Henry Lyman, U. E. Archambault, Thomas Workman, Guillaume Lamothe, Edward Murphy, Major Latour, Russell Stevenson, Hon. J. L. Beaudry, G. W. Stephens, M.P.P., John Molson, Hon. Mr. Justice Cross, Hon. Mr. Justice Baby, Hon. Mr. Justice Johnson, Dr. McConnell, C. R. Chisholm, John Lewis, Joseph Hickson, Rev. Canon Henderson, Wm. Lunn, J. S. McLachlan, O. S. Wood, H. H. Lyman, Prof. C. E. Moyse, Dr. Alex. Johnson, Dr. R. P. Howard, T. D. King, J. A. U. Beaudry, R. G. Leckie, Rev. J. S. Black, Rev. Jas. Roy, Rev. Dr. Murray, Louis Lesage, H. Mott, Rev. Canon Norman, H. Sugden Evans, P. S. Stevenson, Andrew Allan, Thomas White, M.P., Alex. Buntin, M. P. Ryan, Hon. John Hamilton, Rev. W. S. Barnes, Very Rev. Dean Baldwin, Rev. G. H. Wells, Rev. Dr. Macvicar, Rev. Dr. Douglass, J. B. Rolland, C. O. Perrault, Dr. Leprohon. A. M. Gianelli, C. H. Walters, A. T. Drummond, Rev. Dr. Clarke, George Stephen, Rev. Canon Ellegood, Victor Hudon, H. Bulmer, Alfred Brown, J. K. Ward, N. W. Trenholme, E. Holton, M.P.,

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R. A. Ramsay, D. Macmaster, M.P., Rev. Dr. Stevenson, J. C. Wilson, D. Girouard, M.P., Alex. Murray, H. R. Ives, Rt. Rev. W. B. Bond, Rt. Rev. E. C. Fabre, J. H. Joseph, J. S. Hunter, T. J. Claxton, Hon. Charles D. Day, Sir Francis Hincks, Sir A. T. Galt, Hon. J. J. C. Abbott, Hon. Mr. Justice Torrance, Peter Redpath, F. N. Boxer, Ald. Wilson, G. R. Prowse, Ald. Hood, G. R. Grant, Dr. O. C. Edwards, Dr. W. G. Beers, Ald. Grenier, Ald. Mooney, Ald. Kennedy, A. C. Hutchison, A. D. Steele.

COMMITTEE ON FINANCE.

Chairman.—F. WOLFERSTAN THOMAS.
Secretary.—J. STEVENSON BROWN.
Treasurer.—R. MOAT.

George Hague, W. J. Buchanan, H. McLennan, Hon. Louis Beaubien. G. L. Marler, Thomas Craig, T. C. Brainerd, J. H. Joseph, T. S. Brown, R. B. Angus, F. B. Matthews, A. Desjardins, M.P., A. A. Trottier, M. H. Gault, M.P., R. R. Grindley, Andrew Robertson, James Crathern, Hon. J. R. Thibaudeau, G. B. Burland, A. F. Gault, Jacques Grenier, R. Prevost.

COMMITTEE ON CONVEYANCE, ENTERTAINMENTS AND EXCURSIONS.

Chairman.—DR. W. H. HINGSTON.
Secretary.—PROF. BOVEY.

A. R. C. Selwyn, D. A. P. Watt, Dr. J. Baker Edwards, M. H Brisette, Sevère Rivard, J. H. R. Molson, L. Lesage, John S. Shearer, A. B. Chaffee, L. A. Senecal, A. C. Stonegrave, J. Kennedy, C. C. McFall, G. D. Ansley, L. J. Sargeant, E. A. Whitehead, J. Stephenson, Herbert Wallis, Angus Grant, C. J. Fleet, F. F. Bateman.

COMMITTEE ON HOTELS, LODGINGS AND LUNCHEONS.

Chairman.—CHARLES GARTH.
Secretary.—J. BEMROSE.

John Torrance, M. H. Sanborn, R. S. C. Bagg, D. Morrice, J. T. Donald, G. W. Stephens, M.P.P., Geo. W. Craig, Hon. A. W. Ogilvie, G. B. Burland, Geo. Iles, A. A. Stevenson, J. J. McLaren, James Shearer.

COMMITTEE ON ROOMS AND PLACES OF MEETING.

Chairman.—DR. W. OSLER.
Secretary.—PROF. C. H. MCLEOD.

Dr. Harrington, Wm. Muir, Rev. Prof. Campbell, Frank Redpath, Prof. P. J. Darey, G. H. Chandler.

COMMITTEE ON PRINTING AND PUBLICATION.

Chairman.—S. E. DAWSON.
Secretary.—W. R. SALTER.

J. R. Dougall, Dr. L. H. Frechette, Richard White, Hugh Graham, C. A. Dansereau, H. Beaugrand, James Stewart, J. Tassé, M.P., F. Houde, M.P., L. O. David, J. C. Fleming, Rev. A. J. Bray, A. A. Stevenson, J. J. McLaren, Q.C., R. W. Boodle, Dr. W. A. Molson, P. A. Peterson, F. B. Dakin, S. C. Stevenson, F. W. Hicks.

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ANNOUNCEMENT OF THE LOCAL SECRETARIES.

The sessions of the Association, which begun on Wednesday, August 23rd, at 10 a.m., will be held in the buildings of the McGill University. The offices of the Permanent Secretary and the Local Secretaries, with Post-office, Express, Telegraph and Telephone, will be in the central building of the College, and the General Sessions will be held in the William Molson Hall. The Queen's Hall, in University Street, will, however, serve for public evening meetings.

Members are requested to call and register their names at the offices of the Permanent and Local Secretaries, in the central building, McGill College, as soon as possible after their arrival. They are requested to enter separately each member of their families accompanying them. Each person so registered will receive a ribbon, stamped with the number against his or her name on the register, and is requested to wear it during the meeting. This will greatly facilitate the local arrangements. Upon registering their names, members will receive a hand-book of Montreal, prepared by the Local Committee.

The present programme states, as far as possible, with the exception of the papers to be read, the events of each day. The subsequent daily programmes will contain the order of papers to be read in the Sections, lists of members present, lists of members elected, and other information.

Members of the Local Committee will be in waiting at the Committee Room each day, and at the Windsor Hotel each evening, to render such assistance as may be needed, and will be designated by a badge.

Members of the Lodging Committee may also be found in the same places at the same times.

Members of the Railway Committee will be in attendance at the Committee Room, daily, to give such information as may be in their power.

Members of the Excursion Committee will be in attendance at the same place, and members of the Association intending to avail themselves of the opportunities offered, will please register their names for the several excursions as soon as possible.

The excursion to Ottawa by the Canadian Pacific Railway, that to Quebec by the Richelieu & Ontario Co's steamer, returning by North Shore Railway, that to Lake Memphremagog by the South Eastern Railway, and that to Lachine by the Grand Trunk Railway, are given by these lines free of charge.

Through the liberality of the Western Union Telegraph Co., and the Great North-Western Telegraph Company, telegraphic mes-

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the Great North-Western Telegraph Company, telegraphic messages relating to family, social or scientific matters, will be sent from Montreal, during the meeting, for members of the Association, free of charge to all parts of the United States and Canada.

Members going to hotels will be taken thither with baggage at twenty-five cents. There will also be omnibuses plying between the College and the principal hotels for a fare of ten cents. These omnibuses will be marked, A.A.A.S.

There will be a daily luncheon in a temporary building in the College grounds, for which tickets may be purchased at the door.

The Association Post-office will be found in the central building of the College. The office will be open from 8 a.m. to 6 p.m., from August 22nd to 31st, excepting on Sunday, when it will be open only from 2 to 4 o'clock p.m.

Mails will be received three times a day: at 8 a.m., 10 a.m., and at 2 p.m. Letters will be sent to the main office at 2 p.m., 5 p.m., and at 6.30 p.m. Express packages will be received and delivered at the Association Post-office.

The City Directory, Pathfinder, Railway Time-tables, Railway Guides, &c., will be found at the office of the Local Secretaries.

Representatives of the press in attendance upon the meeting can obtain special tickets on application to the Local Secretaries.

General invitations have been extended to the members of the Association by:—

The Library and Museum of McGill University;

The Library of the Mechanics' Institute of Montreal, St. James Street;

The Gallery of the Art Association of Montreal, Phillips Square;

The Museum of the Natural History Society of Montreal, University Street;

The Collections of the Numismatic Society in the Natural History Society's building, University Street;

The Reading Room of the Young Men's Christian Association, Victoria Square;

Merchants' Exchange Reading Room, St. Sacrament Street;

By favor of Messrs. Allan the Steamship "PARISIAN" is open for the inspection of members. Permits may be had at the office of the Local Secretary. The steamer is berthed near the entrance to the Canal at the foot of McGill Street, and will remain open every day until Tuesday.

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EXCURSION TO LACHINE AND DOWN THE RAPIDS.

Persons desiring to make this trip may leave the Bonaventure Depot either at 7 a. m., 7.55 a. m., or at 5 p. m. on any week day from the 23rd to the 30th inst.

The ticket, with which each will be provided by application at the office in McGill College, must be given up on board the steamer at Lachine.

EXCURSION TO QUEBEC.

Persons desiring to make this excursion will leave in the Str *Canada*, of the Richelieu & Ontario Navigation Co., at the Jacques Cartier Wharf, on Friday, the 25th inst., at 7.45 p. m., *sharp*.

Breakfast will be provided on board after 7. a. m. on the following morning.

The return will be made by train leaving the Quebec depot of the North Shore Railway at 6.45 p.m., *sharp*, on Saturday.

Sleeping-berths and tickets may be secured at the office.

EXCURSION TO OTTAWA.

Persons desiring to make this excursion will leave the Mile End Station, of the Canadian Pacific Railway, on Saturday the 26th inst., at 7.30 a. m., *sharp*.

The return train will leave Ottawa at 6 p. m., *sharp*.

For the accommodation of a limited number who may wish to remain in the Capital for a longer time, the Canadian Pacific Railway Co. have kindly offered to make special provision by the ordinary train on Monday.

EXCURSION TO NEWPORT.

Persons desiring to join this excursion will leave the Bonaventure Depot on Thursday, the 31st inst., at 8 a.m., sharp. The S. E. R. will entertain the excursionists at dinner at the Memphremagog House, Newport. The Steamer *Lady oj the Lake* will then leave for a trip on the lake. The train will leave for Montreal at 6.30 p.m., *sharp*.

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EXCURSION TO HARBOUR, VICTORIA BRIDGE, AND GRAND TRUNK WORKSHOPS.

The Harbour Commissioners' steamer will leave the Jacques Cartier or Island Ferry Wharf, at foot of Jacques Cartier Square, Wednesday, 30th, at 2 p.m., *sharp*, reaching the Canal Basin about 3 p.m., when the members of the excursion will enter the train provided by the G.T.R., and visit the Victoria Bridge, Workshops, etc.

The Excursions to Lachine by the Grand Trunk Railway; to Quebec by the Richelieu and Ontario Navigation Co.'s steamer, and return by the North Shore Railway; to Ottawa, by the Canadian Pacific Railway; to Newport, by the South Eastern Railway, are given by these companies free of cost.

The excursion to the Harbour, Victoria Bridge, and Grand Trunk Workshops is by the courtesy of the Harbour Commissioners and the Grand Trunk Railway Co.

IROQUOIS HOUSE, ST. HILAIRE.

During the meeting of the A. A. A. S. Messrs.Campbell Brothers, for a party of fifteen or more offer to provide an omnibus from McGill University at 5 p. m. to the G. T. R. Station for train at 5.20 p. m., return ticket for St. Hilaire, supper, bed and breakfast, for three dollars. The attractions of Belœil Mountain and Lake in close proximity to the city, will, it is hoped, lead to a large party availing themselves of these liberal terms.

LORNE HOUSE, VARENNES MINERAL SPRINGS, VARENNES, P. Q.

This very comfortable hotel at one of the most popular summer resorts in Canada, may be reached by Steamer leaving Jacques Cartier Wharf at 5 p. m. Returning the Steamer leaves Varennes at 7.50 a. m., reaching Montreal at 9 a. m.

The trip through the St. Lawrence is delightful, and will be found refreshing after a day's Association work.

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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary, central building, McGill University, as soon as possible after arrival, to receive their members' tickets.

All assessments and admission-fees must be paid at the office of the Permanent Secretary, and the assessment for the meeting must be paid before registering with the Local Secretaries.

A list of newly elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for entering the Titles of Communications and for Recommendation to Membership can be obtained at the office of the Permanent Secretary.

A subscription-list for the Montreal volume will be opened at the office of the Permanent Secretary; and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50 or more, will receive a copy of the volume, by mail, as soon as published.

The volumes of the Proceedings of the Association can be obtained from the Permanent Secretary at the price of $1.50 per volume; or any member wishing for ten or more volumes, in order to complete a set, may obtain them at $1.00 per volume. The volumes may be had bound in cloth for the extra price of 50 cts. each, or in half morocco for the extra price of $1.00 each. Uniform cloth covers for the volumes will be furnished by mail

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Uniform cloth covers for the volumes will be furnished by mail at 30 cts. each, or by express for 25 cts. each. Copies of volumes 2, 22, 27 and 28 will be received in exchange for other volumes, or will be purchased at $1.00 each. At present copies of volume 27 can only be furnished to members, or on orders, as they are obtained.

The Memoir on Fossil Butterflies, by Mr. S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, 4to, 1875, will be furnished at $2.00 a copy, or at $3.50 bound in half morocco. The Transactions of the American Association of Geologists and Naturalists, 1 vol., 8vo., 1843, bound in cloth, can be obtained at $3.00 a copy, or bound in half morocco, uniform with the Proceedings, for $4.00.

At the Boston meeting the Standing Committee called attention to the importance of re-printing several volumes of the Proceedings of this Association, but stated that this could not be done without the liberal assistance of members and others interested, and asked for subscriptions for this purpose. As full sets of the Proceedings are in demand, particularly in consequence of the late increase in membership, it is hoped that the necessary means will be secured for this purpose. The re-printing of two volumes is now desirable, and of two others only a small number of copies remain. Subscriptions of any amount are therefore earnestly solicited, and all such will be acknowledged by the *Permanent Secretary*, by letter, and also in a printed list of subscribers. The Secretary has the pleasure of stating that $204 have already been received from members for this purpose, and that GEN. WM. LILLY has given $1000 for the re-printing and stereotyping of volume 26, copies of which will be ready for delivery early in September.

The CINCINNATI VOLUME has been sent to every member who paid the assessment to the meeting previous to August 17th. Those paying since that date, and those paying back-assessments at Montreal, will receive the volumes to which they are entitled by mail early in September.

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MORNING.

Meeting of the STANDING COMMITTEE at 9 o'clock, at the Windsor Hotel.

GENERAL SESSION in the Molson Hall, at 10 o'clock.

Meetings of the SECTIONS directly after the adjournment of General Session.

SECTION B.—PHYSICS.

(Will meet in Library, First Floor, Presbyterian College.)

Vice-President.—T. C. MENDENHALL, of Columbus.

Secretary.—CHARLES S. HASTINGS, of Baltimore.

Sectional Committee.

T. C. MENDENHALL, of Columbus.
CHARLES S. HASTINGS, of Baltimore.
C. K. WEAD, of Ann Arbor.
A. E. DOLBEAR, of College Hill.
H. A. ROWLAND, of Baltimore.

Nominating Committee.

T. F. JEWELL, of Newport.

Sub-Committee on Nominations.

T. C. MENDENHALL, of Columbus.
C. S. HASTINGS, of Baltimore.
N. D. C. HODGES, of Cambridge.
J. D. MURDOCH, of Annapolis.

PAPERS TO BE READ IN SECTION B ON THURSDAY.

1. (2) The color of the Sun. 30 m. S. P. LANGLEY.
2. (5) Danger from Lightning increased by Telegraph wires. 5 m. STEPHEN S. HAIGHT.
3. (63) On the Apparent Size of Magnified Objects. 20 m. WM. H. BREWER.
4. (64) On Vision by the Light of the Electric Spark. 15 m. W. LECONTE STEVENS.
5. (33) Atcmic Phyllotaxy. 10 m. PLINY EARLE CHASE.
6. (94) On Secondary Batteries. 15 m. GEORGE F. BARKER.

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SECTION D.—MECHANICAL SCIENCE.

(Will meet in Class Room No. 15, Second Floor, Centre Building.)

Vice-President.—W. P. TROWBRIDGE, of New Haven.

Secretary.—J. BURKSTT WEBB, of Ithaca.

Sectional Committee.

W. P. TROWBRIDGE, of New Haven.
J. B. WEBB, of Ithaca.

PAPERS TO BE READ IN SECTION D.—THURSDAY.

1. (15) Newly discovered absolute limit to Economic Expansion in the Steam Engine. 10 m. R. H. THURSTON.
2. (42) Transverse Strength of large Spruce Beams. 25 m. PROF. GAETANO LANZA.
3. (90) A review of the subjects of atmospheric currents, electricity and gases, with a view to practical Aërial Navigation by means of Balloons. 25 m. JOSEPH L'ETOILE.
4. (93) St. Lawrence Bridge and Manufacturing Scheme. 40 m. F. FOSTER BATEMAN.
5. (118) A method of Cutting Screws of Increasing Pitch. 15 m. J. BURKITT WEBB.
6. (121) The Permeability of the Linings of Housewalls to air. 10 m T. R. BAKER,
7. (127) The future of the Balloon as a practical means of aërial travel. 25 m. W. H. LYNCH.
8. (131) Indicator Attachment for High Speeds. 25 m. J. BURKITT WEBB.

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SECTION E.—GEOLOGY AND GEOGRAPHY.

(Will meet in Theatre Room in Museum.)

Vice-President.—E. T. COX, of San Francisco.
Secretary.—H. B. WILLIAMS, of Ithaca.

Sectional Committee.

E T. COX, of San Francisco; H. B. WILLIAMS, of Ithaca; C. H. HITCHCOCK, of Hanover; N. H. WINCHELL, of Minneapolis; E. T. NELSON, of Delaware.

Nomination Committee.

J. W. SPENCER, of Paxton.

Sub-Committee on Nominations.

P. W. SHEAFER, of Pottsville; ALEX. WINCHELL, of Ann Arbor; WM. LILLY, of Mauch Chunk.

PAPERS TO BE READ IN SECTION E.—THURSDAY.

1. (81) On the relations of Dictyophyton, Phragmodictyum and similar forms with Uphontænia. 30 m. JAMES HALL.
2. (82) Note upon the genus Plumalites. 15 m. JAMES HALL.
3. (1) A Source of the bituminous matter in the Ohio Black Shale, (Huron Shale of Newberry.) 20 m. ED. ORTON.
4. (9) Contribution to Seismology. 25 m. RICHARD OWEN.
5. (11) The Topography and Geology of the Great Salt Lake Valley. 12 m. WILLIAM BROSS.
6. (22) Pre-glacial channel of Eagle River, Lake Superior. 12 m. CHARLES WHITTLESEY.
7. (39) Recent Discoveries of Fossil Fishes in the Devonian Rocks of Canada. 15 m. J. F. WHITEAVES.
8. (46) The Eozoic Rocks of Central and Southern Europe. 15 m. T. STERRY HUNT.
9. (47) The Serpentines of Italy. 10 m. T. STERRY HUNT.
10. (49) Note on the occurrence of Siphonotreta Scotica in the Utica formation near Ottawa, Ont. 5 m. J. F. WHITEAVES.
11. (62) Arctic Explorations in North America. m. JOHN RAE.
12. (66) Recent Investigations and Paleontological Discoveries in the Wappinger Lime Stone of Dutchess and neighboring counties, New York. 30 m. WM. B. DWIGHT.
13. (72) A Mastodon Americanus in a Beaver Dam near Freehold, N. J. 10 m. SAMUEL LOCKWOOD.
14. (75) Silicified Stumps of South Park, Col. 15 m. ROBERT B. WARDER.

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SECTION F.—BIOLOGY.

(Will meet in Room No. 2, in Museum.)

Vice-President.—W. H. DALL, of Washington.

Secretary.—WILLIAM OSLER, of Montreal.

Sectional Committee.

W. H. Dall, of Washington.
William Osler, of Montreal.
J. A. Lintner, of Albany.
W. J. Beal, of Lansing.
H. F. Bassett, of Waterbury.

Nominating Committee.

Lester F. Ward, of Washington.

PAPERS TO BE READ IN SECTION F.—THURSDAY.

The Fertilization of Yucca. Address by THOMAS MEEHAN.

1. (24) Demonstration of a series of Brains prepared by Giacomin's method. 5 m, WILLIAM OSLER.
2. (42) Description of a new species of Alcyonoid Polyp. 10 m. ROBT. E. C. STEARNS.
3. (78) On the Polymorphism of Lycaena pseudargiolus. 15 m. W. H. EDWARDS.
4. (100) Note on the Sterility of the Canada Thistle at Yellow Springs, Ohio. 10 m. E. W. CLAYPOLE.
5. (113) On the Mouth of the larva of Chrysopa. 5 m. WM. SAUNDERS.
6. (91) Cross Heredity from sex to sex. 15 m. MRS. A. B. BLACKWELL.
7. (52) Some remarks on the Flora of North America. PROF. ASA GRAY.

SECTION I.—ECONOMIC SCIENCE AND STATISTICS.

(Will meet in French Class Room, Second Floor, Centre Building.)

Vice-President.—E. B. ELLIOTT, of Washington.

Secretary.—F. B. HOUGH, of Lowville.

Sectional Committee.

E. B. Elliott, of Washington.
F. B. Hough, of Lowville,

PAPERS TO BE READ IN SECTION I.—THURSDAY.

137. I. Notes upon some methods and results of collecting statistical matter by mail. 10 m, CHARLES W. SMILEY.

152. I. On International Standard Time. 30 m. E. B. ELLIOTT.

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SECTION H.—ANTHROPOLOGY.

(Will meet in the Molson Hall, Centre Building.)
Vice-President—DANIEL WILSON, of Toronto, (*absent*).
Secretary.—OTIS T. MASON, of Washington.

Sectional Committee.

Otis T. Mason, of Washington.
A. S. Bickmore, of New York.
Garrick Mallery, of Washington.
N. S. Townshend, of Columbus.

Nomination Committee.

Horatio Hale, of Clinton.

Sub-Committee of Nomination.

Otis T. Mason, of Washington.
J. Owen Dorsey, of Washington.
Geo. H. Perkins, of Burlington.
Joseph Anderson, of Waterbury.

PAPERS TO BE READ IN SECTION H.—THURSDAY.

1. (53) A Scheme of Anthropology. 15 m. OTIS T. MASON.
2. (14) The Cross and the Crucifix. 5 m. CHARLES WHITTLESEY.
3. (17) Notice of a collection of Sioux Weapons and articles of Dress. 5 m. G. H. PERKINS.
4. (18) Recent Archæological discoveries in Vermont. 10 m. G. H. PERKINS.
5. (31) Stone implements from Bomoseen and Castleton Valleys. 10 m. J. MCNAB CURRIER.
6 (54) A Stone Grave in Illinois. 15 m. CHARLES RAU.

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AFTERNOON.

Recess for lunch from 1 to half-past 2 o'clock. Tickets for lunch can be purchased at the door of tent.

Meetings of the SECTIONS at half-past 2 o'clock.

SECTION A.—MATHEMATICS AND ASTRONOMY.

(Will meet in Room 3, Second Floor, Presbyterian College.)
Vice-President.—WILLIAM HARKNESS, of Washington.—*Absent.*
Secretary.—H. T. EDDY, of Cincinnati.

Sectional Committee.

H. P. Eddy, of Cincinnati; G. W. Hill, of Washington; Leonard Waldo, of New Haven; C. A. Young, of Princeton.

Nomination Committee.

W. W. Payne, of Northfield.

Sub-Committee on Nomination.

H. P. Eddy, of Cincinnatti; F. A. Sherman, of Hanover; R. W. Wilson, of Cambridge; C. H. Rockwell, of Tarrytown.

The Address of Vice-President Harkness will be read by Prof. Eastman at the opening of the Section.

PAPERS TO BE READ IN SECTION A.—THURSDAY.

1. (138) Parallax of *a* Lyral and 61 Cygni, by Prof. Hall. 18 m.
2. (40) Description of the new 23 inch Equatorial recently erected in the Halstead Observatory, at Princeton, N. J., by Prof. C. A. Young. 15 m.
3. (73) Inverse Elliptic Functions and the Imaginary Period. by Prof. W. W. Johnson.
4. (35) A correction in Newton's Principia in regard to the time of the approach of two Spheres, by Prof. De Volson Wood. 5 m.
5. (153) A mode of representing any cyclical fact in meteorology, by W. E. Hamilton. 5 m.
6. (147) Note on an experimental solution of a problem in the doctrine of chances, by Prof. T. C. Mendenhall. 8 m.
7. (32) A. Conservatism of Solar Energy, by Prof. Pliny Earle Chase. 15 m.

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8. (37) On the Arithmetic of Chords, by C. P. Hart. 15 m.
9. (48) Circular Co-ordinates, and Complex Anharmonic Ratios, by Prof. W. W. Johnson. 25 m.

SECTION C.—CHEMISTRY.

(Will meet in Chemical Class Room, First Floor, Centre Building.)
Vice-President.—H. C. BOLTON, of Hartford.
Secretary.—ALFRED SPRINGER, of Cincinnati.

Sectional Committee.

H. C. Bolton, of Hartford.
Alfred Springer, of Cincinnati.
Geo. C. Caldwell, of Ithaca.
Robert C. Kedzie, of Lansing.
E. W, Morley, of Londson.

Nominating Committee.

A. A. Julien, New York.
Paul Schweitzer, Columbia.
A. R. Leeds, Hoboken.

PAPERS TO BE READ IN SECTION C.—THURSDAY.

1. (50) On the causes which render flour and organic dust explosive, with suggestions for the prevention of such explosions. 10 m. THOMAS W TOBIN.
2. (68) Action of water at 100° C. on the B. Phenyltribrompropionic Acid. 15 m. LEONARD P. KENNICUTT.
   (69) Preliminary Notice of a new Organic Base. 5 m. ALBERT R. LEEDS.
3. (3) Application of Organic Acids to the examination of Minerals. 20 m. H. CARRINGTON BOLTON.
4. (95) The action of Basic Hydrate on Chlortribrompropionic Acids. 15 m. C F. MABERY AND RALPH WILSON.
   (96) On certain substituted Acrylic and Propionic acids. 25 m. C F. MABERY AND F. C. ROBINSON.
5. (130) Notes on effects of different soils upon soluble Phosphates. 10 m. CHAS. W. DABNEY, JR.
6. (97) On the Products of the Distillation of Wood at low temperatures. 25 m. C. F. MABERY.
7. (128) Some Derivatives of Isopicraminic acid. 15 m. CHARLES W. DABNEY, JR.
   (129) A Benzoyl Anhydro Acid from B-Metamidosalicylic. 10 m. CHAS. W. DABNEY, JR.

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By recommendation of the Sectional Committee the following paper will be made the special order for MONDAY afternoon:

(44) Experimental Researches on the Sources of Nitrogen in Crops. m. J. B. LAWES and J. W. GILBERT.

SECTION G.—HISTOLOGY AND MICROSCOPY.

(Will meet in Room No. 3, in Museum.)

Vice-President.—A. H. TUTTLE, of Columbus.

Secretary.—ROBERT BROWN, Jr., of New Haven.

Sectional Committee.

A. H. Tuttle, of Columbus.
Robt. Brown, Jr., of New Haven.
A B. Hervey, of Taunton.
Louis Elsbury, of New York.
Romyn Hitchcock, of New York.

Nominating Committee.

J. D. Haytt, of Morrisania.

Sub-Committee on Nominations.

G. H. Tuttle, of Columbus.
Robt. Brown, Jr., of New Haven.
G. O. Mitchell, of New York.
T. J. Bunille, of Champaign.
C. C. Merriman, of Rochester.

PAPERS TO BE READ IN SECTION G.—THURSDAY.

1. (154) On Angular Aperture in relation to Biological Investigation. WM. B. CARPENTER.
2. (23) Demonstration of the Bacillus of Tuberculosis. 10 m. W. OSLER.
3. (25) The third Corpuscular element in the Blood. 10 m. W. OSLER.
4. (26) The development of Blood Corpuscle in the bone-marrow. WM. OSLER.
5. (27) Note on the Microcytes of the Blood, and their probable origin. 5 m. W. OSLER.

EVENING.

Reception by the PRESIDENT OF THE ASSOCIATION in the Peter Redpath Museum, and formal opening of the Museum, at 8 o'clock. Members of the Association will receive cards of invitation at the Association Post-office.

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TITLES OF PAPERS ENTERED.

(*Continued from page* 27.)

135. E. Occurrence of Magnetic ore deposits in Victoria County' Ontario. m. W. HAMILTON MERRITT.

136. E. The Undulations of the Rock-masses across Central New York State. 15 m. HENRY S. WILLIAMS.

137. I. Notes upon some methods and results of collecting statistical matter by mail. 10 m. CHAS. W. SMILEY.

138. A. Parallax of *a* Lyrae and *b* Cygni. 18 m. PROF. A. HALL.

139. E. Freshwater lignitic series of beds in the Cretaceous formation of France. D. W. KOWALENSKY.

140. F. The Jessup Collection to illustrate American Forestry in the Museum of Natural History, Central Park, New York. 10 m. ALBERT S. BICKMORE.

141. E. On the surface limit of the thickness of the Continental glacier in New Jersey and adjacent States, with notes on glacial phenomena in the Catskills. 15 m. JOHN C. SMOCK.

142. E. Terraces and Beaches about Lake Ontario. 5 m. J. W. SPENCER.

143. E. Occurrence of Graptolities in the Niagara Formation of Canada. 6 m. J. W. SPENCER.

144. E. The Caves of Staffa and their relation to the ancient civilization of Iona. 15 m. F. COPE WHITEHOUSE.

145. H. A find Ceremonial weapons in Florida. 10 m. A. E. DOUGLAS.

146. G. On the Epidermis of Marsipobranches. 15 m. A. H. TUTTLE.

147. B. Note on an experimental solution of a problem in the Doctrine of Chances. 8 m. T. C. MENDENHALL.

148. B. On the Reduction of the electrical resistance of the carbon button by the passage of an electrical current. 5 m. T. C. MENDENHALL.

149. F. Achænodon from the Bridger Eocene Beds. 15 m. HENRY F. OSBORN.

150. F. Notes on some of the peculiarities incident to the Diseases of Fruits. 15 m. D. P. PENHALLOW.

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151. B. Radiant Heat an Exception to the second law of Thermodynamics. 10 m. H. T. EDDY.
152. I. On International Standard Time. 30 m. E. B. ELLIOTT.
153. A. A mode of representing any cyclical fact in Meteorology. 5 m. W. E. HAMILTON.
154. G. An Angular Aperture in relation to Biological Investigations. 8 m. W. B. CARPENTER.
155. C. Pemberton's method for the volumetric determination of Phosphoric Acid. 10 m. C. C. CALDWELL.
156. F. The Organic Compounds in their relations to life. 30 m. LESTER F. WARD.
157. H. Anthropology. 20 m. CLINTON ROOSEVELT.
158. C. Notes on the Present Status of Sanitary Inspection, with special reference to the Examination of Water and Air. 10 m. ROMYN HITCHCOCK.
159. F. Observations on the Elm-leaf, Beetle (Galeruca Xanthomelaelna) 10 m. G. MACLOSKIE.
160. A. On the temperature of the Sun. 10 m. A. E. DOLBEAR.
161. The motion of roots and radicles of Indian Corn and Beans. 15 m, W. S. BEAL.
162. E. Suggestions as to the History of the Lower Coal measures of Ohio. 20 m. EDWARD ORTON.
163. C. Carbon dioxide in the Atmosphere. 20 m. ERNEST H. COOK.
164. C. A simple Laboartory Appliance. 10 m. ERNEST H. COOK.
165. B. On Electrical Conduction *vs.* Induction. 10 m. A. E. DOLBEAR.
166. B. On the Telephone as an explorer in an electric field. m. A. E. DOLBEAR.
167. B. On Vortex Ring Phenomena. 5 m. A. E. DOLBEAR.
168. B. On Telegraphing without Wires. 10 m. A. E. DOLBEAR.
169. On the constitution of Magnets. 5 m. A. E. DOLBEAR.
170. B. On the character of Heat. 10 m. A. E. DOLBEAR.
171. E. The Glacial Flood of the Connecticut River Valley. 15 m. C. H. HITCHCOCK.
172. G. A new form of constant Injection Apparatus. 12 m. WILLIAM LIBBEY.
173. B. A study of the problem of fine rulings with reference to the limit of naked eye visibility and microscopic resolution. 24 m. W. A. ROGERS.
174. B. Determination of the relation ;—— Metre des Archives =Imperial Yard × 3.37015 inches. 18 m. W. A. ROGERS.

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MEMBERS ELECTED.

AUGUST 23rd.

1 Col. James W. Abert, Newport, Ky.
2 U. E. Archambault, Montreal.
3 Rev. Wm. D. Armstrong, Ottawa, O.
4 Miss Mary Austin, Milton, Mass.
5 Frank Baker, M. D., 366 C. St. Washington, D. C.
6 Prof. Philip S. Baker, Ashbury University, Greencastle, Ind.
7 Miss Mary A. Baldwin, Newark, N. J.
8 H. Ballard, Principal, Lenox Academy, Lenox, Mass.
9 Charles H. Banes, Philadelphia, Pa.
10 Martha M. Barker, Lowell, Mass.
11 Henry Barnard, Hartford, Conn.
12 F. Foster Bateman, Montreal.
13 Pierre Janvier Ubalde Baudry, Beauharnois, P. Q.
14 Delos W. Beadle, St. Catharines, Ont.
15 Thomas Beall, Lindsay, Ont.
16 J. Alphonse U. Beaudry, C. E., Montreal, P. Q.
17 Alexander Melville Bell, Georgetown, D. C.
18 Chichester A. Bell, Washington, D.C.
19 Mrs. Albert S. Bickmore, New York.
20 George John Bowles, Montreal.
21 Milton H. Brissitte, Montreal.
22 Prof. C. J. Brown, Chamberlain Institute, Randolph, N.Y.
23 Prof. William H. Burr, Troy, N.Y.
24 Lt.-Comdr. Albert G. Caldwell, Torpedo Station, Newport, R.I.
25 H. L. Cargill, Montreal.
26 Charles Carpmael, Director of Magnetic Observatory, Toronto, Ont.
27 John Healey Childe, Boston, Mass.
28 Prof. John Mason Clarke, Smith College, Northampton, Mass.
29 Miss Cornelia M. Clapp, South Hadley, Mass.
30 Amory Coffin, Phœnixville, Pa.
31 Miss Emma Oberin Conro, Keesville, N.Y.
32 Dr. B. E. Cotting, Roxbury, Mass.
33 Francis William Crosby, Washington, D.C.
34 Hon. Rodney R. Crowley, Randolph, N.Y.
35 Miss Elizabeth Curtis, Boston, Mass.
36 Abijah Curtiss, Yonkers, New York.
37 Peter C. Dempsey, Trenton, Ont.
38 Wm. H. Dennis, Assist. U. S. Coast and Geodetic Survey, Washington, D.C.
39 John M. Denton, London, Ontario.
40 J. Richards Dodge, Dept. Agriculture, Washington, D.C.
41 Rev. James Owen Dorsey, Bureau of Ethnology, Washington, D.C.
42 Andrew E. Douglas, New York.
43 Walter Angus Dun, M. D., London, England.
44 Richard J. Dunglison, M. D., Philadelphia, Penn.
45 Robert G. Eccles, M.D., Brooklyn, N.Y.
46 President J. T. Edwards, Chamberlain Institute, Randolph, N.Y.
47 William Cole Esty, Amherst College, Amherst, Mass.
48 Frank H. Fairfield, Amherst, Mass.
49 A. G. Fenwick, M.D., London, Ont.
50 Bernhard E. Fernow, Slatington, Penn.
51 James Ferrier, Jr., Montreal.
52 Walter F. Ferrier, Montreal.
53 Sanford Fleming, Chancellor of the Queen's University. Ottawa, Ont.
54 James Fletcher, Library of Parliament, Ottawa, Ontario.
55 Wm. W. Folwell, Minneapolis, Minn.
56 Cyrus G. Force, Jr., Cleveland, Ohio.
57 Rev. T. W. Fyles, Cowansville, P.Q.
58 Benjamin D. Gilbert, Utica, N.Y.
59 H. D. Garrison, Chicago, Ill.
60 Stephen Samuel Haight, New York, N.Y.
61 Miss Mary Hale, Roxbury, Mass.
62 R. G. Haliburton, Ottawa, Ont.
63 Lyman B. Hall, Haverford College, Penn.
64 Albert P. Hallock, New York, N.Y.
65 Henry Harding, Salem, Mass.
66 Miss A. Maria Harmon, Ottawa, Ont.
67 Dr. P. L. Hatch, Minneapolis, Minn.
68 Henry Hemming, Finance Department, Quebec.
69 N. H. Heming, Minneapolis, Minn.
70 F. H. Herrick, Burlington, Vermont.
71 Charles N. Hewitt, Minneapolis, Minn.
72 Prof. Lewis E. Hicks, Denison University, Granville, Ohio.
73 John S. Hicks, Roslyn, N.Y.
74 Joseph Lawrence Hills, South Boston, Mass.
75 Miss Mary H. Hinckley, Milton, Mass.
76 Arthur Hollick, New Brighton, N.Y.
77 Miss Rose Hollingsworth, Milton, Mass.
78 Joseph Holt, M.D., New Orleans, La.
79 Geo. Henry Hudson, Plattsburgh, N.Y.
80 Ray Greene Huling, Fitchburg, Mass.

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81 Charles W. Hutchinson, Utica, N.Y.
82 George Iles, Montreal.
83 John G. Jack, Chateauguay Basin, Que.
84 Mrs. Isabella James, Cambridge, Mass.
85 Lewis C. Jones, Hartford, Conn.
86 William Schuyler Johnson, Washington, D.C.
87 Prof. James Kirkland, Toronto, Ontario.
88 Dr. Isidore Kitzie, Cincinnati, Ohio.
89 Miss Elizabeth G. Knight, New York, N. Y.
90 J. C. Lathrop, Bridgeport, Conn.
91 L. A. Huguet-Latour, Montreal.
92 Prof. George Lawson, Dalhousie College, Halifax, Nova Scotia.
93 Prof. Geo. Dudley Lawson, Cambridge, Mass.
94 Edward W. Lee, M.D., Randolph, N. Y.
95 Joseph Libbey, Georgetown, D. C.
96 Mrs. Rachel Lloyd, Louisville, Ky.
97 Horatio Loomis, Burlington Vt.
98 Prof. Thomas R. Lounsbury, Yale College, New Haven, Conn.
99 Joseph L'Etoile, Dept. Interior, Quebec.
100 John W. Lovell, New York, N. Y.
101 Albert Lufkin, Newton, Iowa.
102 Prof. Louis L. McInnis, College Station, Texas.
103 W. H. Manning, Reading, Mass.
194 Prof. Wm. J. Martin, Davidson College, N. C.
105 Prof. Samuel T. Maynard, Mass. Agriculture College, Amherst, Mass.
106 W. Hamilton Merritt, Toronto, Ont.
107 Capt. James H. Merryman, U.S.R.M., New York.
108 President James Mills, Ontario, Agricultural College, Guelph, Ontario.
109 T. Wesley Mills, Montreal.
110 William Hamilton Mills, Hamilton, Ont.
111 Mrs. Mary E. Morgan, Rochester, N.Y.
112 Charles J. Morse, Youngstown, Ohio.
113 Capt. John H. Mortimer.
114 William Muir, Montreal,
115 John P. Munn, M.D., New York, N.Y.
116 Henry M. Newington, St. Louis, Mo.
117 Stephen Prendergast, Phœnix, N. Y.
118 Arthur Perkins, Hartford, Conn.
119 George Phelps, Nashua, N. H.
120 Dr. Cyrus Newlin Pierce, Media, Penn.
121 Louis H. Pignold, Montreal.
122 Prof. Johnson T. Platt, Yale College, New Haven, Conn.
123 Frederick B. Power, Ph. D., Philadeldelphia, Pa.
124 Prof. George D. Purinton, University of Des Moines, Des Moines, Iowa.
125 John Stephen Renninger, M. D., Minneota, Minnesota.
126 Edgar Richards, Washington, D. C.
127 Bates S. Rideout, Lewiston, Maine.
128 Mrs. Susan Riley, Mobile, Alabama.
129 Thomas S. Roberts, Minneapolis, Maine.
130 Thomas P. N. Rogers, Burlington, Vt.
131 Rev. James Roy, Montreal.
132 Prof. Alvah Horton Sabine, University of Vermont, Burlington, Vermont.
133 Mary Jane Safford, M.D., Boston, Mass.
134 Daniel Elmer Salmon, Asheville, N. C.
135 J. W. Sanborn, Hanover, N. H.
136 George H. Seyms, Hartford, Conn.
137 Chas. S. Shultz, Hoboken, New Jersey.
138 Dr. Hrbt. E. Smith, New Haven, Conn.
139 Miss Marian M. Smead, Batavia, N. Y.
140 Marcell N. Smith, Boston, Mass.
141 Thomas H. Smith, Chicago, Ill.
142 Miss Augusta J. Solomons, Sumter, S.C.
143 Miss Kate C. Solomons, Sumter, S.C.
144 Miss Maude Cohen Solomons, Sumter, S. C.
145 Jas. H. Stibbins, Jr., New York, N.Y.
146 Horace Ed. Stockbridge, Amherst, Mass.
147 Levi Stockbridge, Amherst, Mass.
148 Lincoln R. Stone, M.D., Newton, Mass.
149 Jacob H. Studer, Columbus, Ohio.
150 Frederick William Taylor, Smithsonian Institution, Washington, D.C.
151 J. E. Thompson, Spalding, Mich.
152 Herbert G. Torrey, New York, N.Y.
153 C. W. Volney, Mott Haven, N.Y.
154 Prof. Carl Warnecke, Montreal.
155 Joseph W. Warren, Harvard Medical School, Boston, Mass.
156 John Hosea Washburn, Bridgewater, Mass.
157 Miss C. A. Watson, Salem, Mass.
158 Prof. J. Burkitt Webb, Cornell University, Ithaca, N.Y.
159 Hon. Jos. E. Weeden, Randolph, N.Y.
160 Arthur W. West, Salem, Mass.
161 Alice Walker Wheildon, Concord, Mass.
162 J. F. Whiteaves, Geological Survey, Ottawa, Ontario.
163 F. Cope Whitehouse, New York, N.Y.
164 Prof. Sarah F. Whiting, Wellesley College, Wellesley, Mass.
165 Francis Augustus Wilber, New Brunswick, N.J.
166 J. Francis Williams, Salem, N.Y.
167 Janet Webster Williams, Newton, Lower Falls, Mass.
168 Miss Hannah S. Wingate, Brooklyn, N.Y.
169 Thomas Fanning Wood, M.D., Wilmington, N.C.

169, in addition to the Members of the Local Committee.

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REGISTER OF ARRIVALS.

AUGUST 23, 1882.

No.	*Name.*	*Permanent Residence.*	*Residence during the Meeting.*
1	G. F. Barker	Philadelphia, Pa	130 Mackay Street.
2	Mrs. Barker	do	do
3	Miss Barker	do	do
4	R. G. Huling	Pitchburg, Mass	do
5	Mrs. Huling	do	do
6	S. B. Pathe	Fall River, Mass	do
7	P. V. Williams	Watertown, N. Y	St. Lawrence Hall.
8	S. M. Hedges	Boston, Mass	1431 St. Catherine St.
9	Mrs. Hedges	do	do
10	Miss E. M. Hedges	do	do
11	D. W. Beadle	St. Catharines, Ont	168 Mance Street.
12	Mrs. Beadle	do	do
13	Miss S. E. Beadle	do	do
14	W. D. Boardman	Roxbury, Mass	1431 St. Catherine St.
15	Mrs. Boardman	do	do
16	Miss M. H. Hinckley	Milton, Mass	King Street
17	Miss M. Austin	do	do
18	Miss R. Hollingsworth	do	22 Cathcart Street.
19	Mrs. P. R. Hollingsworth	do	do
20	J. W. Dawson	Montreal	McGill College.
21	N. H. Winchell	Minneapolis, Minn	Windsor Hotel.
22	E. T. Cox	San Francisco, Cal	do
23	W. F. Ferrier	Montreal	144 Metcalfe Street.
24	J. Ferrier, jr.	do	do
25	Miss C. A. Watson	Salem, Mass	Windsor Annex.
26	Miss Sarah E. Hunt	do	do
27	Miss A. L. Page	do	do
28	Mrs. C. H. Dall	Washington, D. C	107 Union Avenue.
29	A. E. Pook, M.D.	Philadelphia, Pa	1531 St. Catherine St.
30	G. J. Brush	New Haven, Conn	Windsor Hotel.
31	Mrs. Brush	do	do
32	C. W. Smiley	Washington, D.C.	———
33	W. H. Stephens	Louisville, N. Y	St. Lawrence Hall.
34	H. S. Williams	Ithaca, N. Y	273 Bleury Street.
35	John Hagemann	Cincinnati, Ohio	Windsor Hotel.
36	J. F. James	do	824 Ontario Street.
37	Miss E. W. James	do	do
38	Miss A. James	do	do
39	A. E. Highways	do	903 Sherbrooke Street.
40	H. C. Bolton	Hartford, Conn	Windsor Hotel.
41	Mrs. Jackson Bolton	do	do
42	C. H. Rockwell	Tarrytown, N.Y	211 Peel Street.

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No.	*Name.*	*Permanent Residence.*	*Residence during the Meeting.*
43	P. Mohr	Cincinnati, Ohio	28 St. Denis Street.
44	Miss E. Mohr	do	do
45	Miss M. Mohr	do	do
46	Joseph Szabo	Buda-Pesth, Hungary	256 University Street.
47	John Pallon	Lawrence, Mass	40 Osborne Street.
48	H. S. Jewett	Dayton, Ohio	62 Cathedral Street.
49	T. Sterry Hunt	Montreal	256 University Street.
50	J. L'Etoile	Ottawa	Eagle Hotel.
51	W. W. Tracey	Detroit, Mich	American House.
52	D. P. Penhallow	Mountainville, N. Y	58 Drummond Street.
53	Mrs. J. James	Cambridge, Mass	do
54	Miss F. B. James	do	do
55	Mrs. Dawson	Montreal	McGill College.
56	Miss Wilson	Toronto	
57	Miss Dawson	Montreal	do
58	Miss C. Crow		do
59	T. J. Burrill	Champaign, Ill	———
60	F. W. Putnam	Cambridge, Mass	Windsor Hotel.
61	Miss Alice E. Putnam	do	Windsor Annex.
62	W. E. Archambault	Montreal	846 Ontario Street.
63	Daniel Draper	New York, N.Y	1325 St. Catherine St.
94	E. H. Dixon	Hastings-on-Hudson	do
65	J. M. Edwards	Marlboro, Mass	273 Bleury Street.
66	Mrs. Edwards	do	do
67	Rev. James Roy	Montreal	1464 St. Catherine St.
68	Mrs. Roy	do	do
69	Miss Roy	do	do
70	Miss J. Roy	do	do
71	E. A. Cook	Bristol, Eng	31 McTavish Street.
72	Mrs. Z. D. Butcher	Washington, D. C	———
73	Miss R. Freeland	do	———
74	James Hyatt	Stanfordville, N.Y	———
75	D. W. Kowalesky	Moscow, Russia	295 Upper University St.
76	Alfred Springer	Cincinnati, Ohio	758 Dorchester Street.
77	Miss Cora Elsas	do	do
78	O. T. Mason	Washington, D. C	Diocesan College.
79	Mrs. Martha J. Lamb	New York City	101 Metcalfe Street.
80	H. B. Nason	Troy, N.Y	Windsor Hotel.
81	Mrs. Nason	do	do
82	J. F. Williams	Salem, N. Y	do
83	C. V. Riley	Washington, D. C	Windsor Annex.
84	Miss N. Lafargue	do	do
85	A. W. Wheildon	Concord, Mass	———
86	J. B. Edwards	Montreal	55 Radegonde Street.
87	J. A. W. Beaudry	do	635 Ontario Street.
88	L. A. H. Latour	do	36 McGill College Avenue
89	E. L. Startevant	Geneva, N. Y	Windsor Hotel.
90	James Mills	Guelph	1465 St. Catherine St.
91	Mrs. Mills	do	do
92	John Thorburn	Ottawa	St. Lawrence Hall.
93	Thomas Kirkland	Toronto	McGill College.
94	Geo. H. Cook	New Brunswick, N. J	144 Metcalfe Street.
95	Miss A. B. Cook	do	do
96	Miss E. W. Cook	do	do
97	Mrs. A. B. Cook	Holmdel, N. J	38 Victoria Street.
98	J. E. Cook	Hanover, N. J	do

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No.	Name.	Permanent Residence	Residence during the Meeting.
99	W. H. H. Russell		Windsor Hotel.
100	M. H. Brissette	Montreal, P. Q.	Montreal.
101	Charlotte S. Tower	do	———
102	Mrs. J. Ferrier	Lexington, Mass	144 Metcalfe Street.
103	J. O. Dorsey	Washington, D. C	108 Stanley Street.
104	Miss M. Bowles	Columbia, Tenn	903 Sherbrooke Street.
105	Rev. Dr. Houghton	Dublin, Ireland	Windsor Hotel.
106	E. B. Elliot	Washington, D. C	———
107	A. H. Ormsleys	Dublin	Windsor Hotel.
108	Miss E. L. Hamlin	New York, N. Y	35 Tupper Street.
109	H. A. Ward	Rochester, N. Y	47 McGill College Avenue
110	W. L. Dudley	Cincinnati, Ohio	Windsor Hotel.
111	B. D. Gilbert	Utica, N. Y	do
112	Mrs. Charlotte F. Wells	New York, N. Y	27 Windsor Street.
113	Wm. Wallace	Ausonia, Ct	Windsor Hotel.
114	W. S. McCays	Dublin, Ireland	do
115	James Hall	Albany, N. Y	600 Sherbrooke Street.
116	L. F. Ward	Washington, D. C	1394 St. Catherine St.
117	Mrs. Ward	do	do
118	Proff. C. Hertzberg	Brooklyn, L. I	———
119	C. S. Wheeler	Chicago, Ill	108 Mansfield Street.
120	Mrs. Wheeler	do	do
121	Wm. Muir	Montreal	1395 St. Catherine St.
122	Mrs. Muir	do	do
123	S. C Caldwell	Ithaca, N. Y	Diocesan College.
124	F. C. Caldwell	do	do
125	John Rae	Kensington, Lndn	290 Mountain Street.
126	H. E. Olbord	Mountainville, N. Y	(31) Windsor Hotel.
127	G. E. Howell	Rochester, N. Y	2 McGill College Avenue
128	P. W. Staebner	———	47 McGill College Avenue
129	Y. P. Bassnett	Jacksonville, Fla	6 Victoria Street.
130	Mrs. Y. Bassnett	do	do
131	Miss H. H. Mays	Georgia, Fla	do
132	Miss M. C. Solomans	Sumter, S. C	903 Sherbrooke Street.
133	Miss Kate Solomans	do	do
134	Miss A. Solomans	do	do
135	J. F. Whiteaves	Ottawa, Ont	St. Lawrence Hall.
136	N. S. Townshead	Columbus, Ohio	New York House.
137	W. R. Lagenby	do	do
138	J. R. Eastman	Washington, D. C	2 and 3 Diocesan College
139	Mrs. J. R. Eastman	do	do
140	S. W. Burnham	Chicago, Ill	City Hotel.
141	H. D. Garrison	do	Albion Hotel.
142	Rev. T. Fyle	Cowansville, P. Q	Diocesan College.
143	A. J. Burnham	Chicago, Ill	City Hotel.
144	John Michels	New York, N. Y	893 Sherbrooke Street.
145	H. Lord	do	903 Sherbrooke Street.
146	Mrs. E. Smith	Jersey City	Windsor Hotel.
147	Chas. Carpmael	Toronto, Ont	———
148	W. H. Dall	Washington, D. C	Diocesan College.
149	Wm. Landers	London, Ont	Windsor Annex.
150	J. M. Denton	do	———
151	Rev. M. P. Costin	Fordham, N. Y	St. Mary's College, Bleury Street
152	W. P. Trowbridge	New Haven, Ct	Theology College.
153	Mary A. Baldwin	Newark, N. J	101 Metcalfe Street.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
154	Alice Riker	Newark, N. J.	101 Metcalfe street.
155	Chas. Wedl	Vienna	Richelieu Hotel.
156	F. H. Lond	Colorado Springs	Albion Hotel.
157	Mrs. Lond	do	do
158	Mrs. E. M. Wileys	do	do
159	Miss E. N. Hunt	Montreal, P. Q.	256 University Street.
160	Miss M. Hunt	do	do
161	Robt. C. Kedzie	Lansing, Mich.	Richelieu Hotel.
162	W. E. Cutler	Worcester, Mass.	Windsor Hotel.
163	S. W. Johnston	Washington, D. C.	58 Drummond Street.
164	Miss. E. B. Johnston	do	do
165	Rev. Dr. Shackelford	New York, N. Y.	21 McGill College Avenue
166	Miss Shackelford	do	do
167	Geo. R. Shackelford	do	do
168	Eliz. P. Shackelford	do	do
169	A. S. Bickmore	do	Windsor Hotel.
170	Mrs. Bickmore	do	do
171	A. E. Douglass	do	do
172	A. S. Gatselet	Washington, D. C.	216 Bleury Street.
173	W. H. Hingston	Montreal, P. Q.	37 Union Avenue.
174			
175	Mrs. J. Kirkland		McGill College Obs.
176	S. H. Brackett	St. Johnsbury, Vt.	23 Shuter street
177	Alex Graham Bell	Washington, D. C.	Windsor Hotel
178	Arthur W. West	Salem, Mass.	1596 St. Catherine street
179	T. C. Mendenhall	Columbus, Ohio	Windsor Hotel
180	Mrs. Mendenhall	do	do
181	Byron D. Halsted	Broadway, N. Y.	American House
182	J. Henry Comstock	Ithaca, N. Y.	1462 St. Catherine street
183	Mrs. Henry Comstock	do	do
184	Miss H. Willets	do	do
185	Miss E. Halbrooke	Alto, N. Y.	do
186	P. W. Clarke	Cincinnati, Ohio	Windsor Hotel
187	Miss Mary Hale	Roxbury, Mass.	———
188	C. P. Gardner	Rochester, N. Y.	49 Mance street
189	Mrs. C. P. Gardner	do	do
190	D. A. Bassett	Crawfordsville, Ind.	142½ St. Denis street
191	S. C. Heighways	Cincinnati, Ohio	———
192	John Heywood	Westerville, Ohio,	Richelieu Hotel
193	W. A. Conklin	New York, N. Y.	Windsor Hotel
194	W. Van Valkenburgh	do	do
195	A. H. Worthen	Springfield, Ill.	———
196	Mrs. A. H. Worthen	do	Windsor Hotel
197	E. R. Chadbourn	Lewiston, Me.	107 Bleury street
198	W. H. Mills	Hamilton, Ont.	Richelieu Hotel
199	Mrs. W. H. Mills	do	do
200	Winslow Upton	Washington, D. C.	80 University street
201	Mrs. Winslow Upton	do	do
202	Dr. Frank Caldwell	Cincinnati, Ohio	———
203	R. S. Rideout	Lewiston, Me.	207 Bleury street
204	J. W. Spencer	Columbia, Mo.	Cor. Sherbrooke and City Councillor streets
205	Miss Spencer	do	do
206	Mrs. A. Warren	do	do
207	J. J. Bell	Exeter, N. H.	Windsor Hotel
208	Mrs. J. J. Bell	do do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
209	C. Schaeffer	Philadelphia, Pa	Windsor Hotel
210	J. D. McGuire	Elliott City, Md	42 Victoria street
211	Mrs. J. D. McGuire	do do	do
212	F. C. Seagrave	Providence, R.I	Windsor Hotel
213	Mrs. S. A. Seagrave	do do	do
214	N. D. C. Hodges	Salem, Mass	7 Burnside Place
215	J. J. May	Boston, Mass	J.H.R.Molson, Piedmont
216	Mrs. J. J. May	do	do
217	Miss May Davis	do	do
218	Miss M. Winson	do	do
219	A. J. Cook	Lansing, Mich	Richelieu Hotel
220	Mrs. A. J. Cook	do	do
221	Miss A. Curtiss	Owosso, Mich	do
222	Arthur F. Taylor	Cleveland, O	St. Lawrence Hall
223	J. E. Hendrick	Des Moines, Iowa	St. James Hotel
224	Gaetano Lanza	Boston, Mass	20 University street
225	Mrs. M. Hartley Brown	New York City	101 Metcalfe street
226	F. A. Wilber	New Brunswick, N. J	77 Mansfield street
227	Mrs. F. A. Wilber	do	do
227	S. A. Maxwell	Cincinnati, O	St. James Hotel
229	H. A. Hagen	Cambridge, Mass	Windsor Hotel
230	R. L. P. Mason	Providence, R. I	———
231	N. M. Mason	do	———
232	C. H. Fernald	Orono, Me	91 Cathedral street
233	Mrs. C. H. Fernald	do	do
234	S. Henshaw	Boston, Mass	Windsor Hotel
235	L. B. Hall	Haverford, Pa	St. Lawrence Hall
236	J. A. Kirkpatrick	Philadelphia, Pa	344 Bleury street
237	L. W. Kirkpatrick	do	do
238	Mrs. S. L. Fish	Brunswick, Me	91 Cathedral street
239	C. Fish	do	do
240	W. J. Martin	North Carolina	56 University street
241	B. Forgate	Auburn, N. Y	31 Victoria street
242	Mrs. B. Forgate	do	do
243	Miss M. Kelsey	Clinton, N. Y	do
244	A. P. Kelsey	do	31 Victoria street
245	Canon Henderson	Montreal	852 Dorchester street.
246	S. J. Wardwell	Rutland, Vt	St. Lawrence Hall.
*247	Mrs. S. J. Wardwell	do	do
248	Mrs. L. O. Mound	do	do
249	Miss H. M. King	Salem, Mass	903 Sherbrooke street.
250	Miss M. W. Nichols	do	do
251	J. L. Wall	New York City	Windsor Hotel.
252	C. F. Rand	Batavia, N. Y	do
253	W. A. Anthony	Ithaca, N. Y	New York House.
254	Mrs. W. A. Anthony	do	do
255	Miss Anthony	do	do
256	J. B. Webb	do	do
257	S. W. Morehouse	Wayland, N. Y	Windsor Hotel.
258	S. P. Clark	Lockport, N. Y	do
259	J. T. Lovewell	Topeka, Kan	do
260	J. B. Murdock	Annapolis, Ind	219 Peel street.
261	W. H. Pitt	Buffalo, N. Y	do
262	Mrs. Pitt	do	do
263	R. G. Eccles	Brooklyn, N. Y	———
264	E. W. Morley	Cleveland, Ohio	———

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No.	Name.	Permanent Residence.	Residence during the Meeting.
265	Mrs. Morley	Cleveland, Ohio	———
266	Mrs. C. E. Ridler	Kingston, Mass	Mr. Grant's.
267	C. E. Ridler	do	do
268	H. W. Rust	Pasaduna, Cal	———
269	Mrs. E. D. Cheney	Jamaica Plain, Mass	101 Metcalfe street.
270	Miss M Peachy	do do	do
271	E. B. Treat	New York	1351 St. Catherine street.
272	B. P. Mann	Washington	916 Dorchester street.
273	G. Macloskie	Princeton, N.J	7 Hanover street.
274	W. B. Carpenter,	London, Eng	241 University street.
275	Mrs. Carpenter	do	do
276	W. W. Payne	Northfield, Min	———
277	Jas Warnock	New York	Windsor Hotel.
278	W. H. Mead	do	do
279	Mrs. Mead	New York	Windsor Hotel
280	Mrs. J. C. Lathrop	Bridgeport, Conn	1474 St. Catherine street
281	J. C. Lathrop	do	do
282	T. F. Jewell	Newport, R. I	91 Cathedral street
283	E. S. Dunham	New York,	111 Union Avenue
284	E. K. Fitch	Jefferson, Ohio	St. Lawrence Hall
285	D. H. Wells	Hartford, Conn	19 Brunswick street
286	Mrs. Wells	do	do
287	S. Watson	Cambridge, Mass	903 Sherbrooke street
288	Rev. C. J. S. Bethune	Port Hope, Ont	169 University street
289	G. N. Wilber	New York	1460 St. Catherine street
290	Miss S. Marble	Woonsocket, R. I	19 Brunswick street
291	J. R. Marble	do	do
292	J. R. Bartlett	Lonsdale, R. I	903 Sherbrooke street
293	J. L. Hills	South Boston	38 Cathcart street
294	E. B. Reed	London, Ont	1466 St. Catherine street
295	T. Green	Easton, Penn	164 Peel street
296	Miss Green	do	do
297	A. May	West Chester, Penn	9 Richmond Square
298	H. S. Bussett	Waterbury	447 St. Lawrence street
299	T. E. Jenks	Middleborough, Mass	1070 St. Catherine street
300	Mrs. Jenks	do	do
301	Miss M. A. Hoskings	do	do
302	Wm. Grilly	Mauch Chunk, Penn	Windsor Hotel
303	Mrs. L. Stone	Chicago, Ill	101 Metcalfe street
304	B. F. Morris	Wallingford	1460 St. Catherine street
305	J. N. Batchelder	Salem, Mass	Windsor Hotel
306	E. L. Larkins	New Windsor, Ill	St. Lawrence Hall
307	S. Painter	Washington, D. C	1325 St. Catherine street
308	R. Hitchcock	New York	American Hotel
309	W. Osler	Montreal	1351 St. Catherine street
310	S. H. Freeman	Cleveland, Ohio	———
311	C. E. Hausmann	Troy, N. Y	St. James Hotel
312	Miss L. E. Payne	Montreal	130 McKay street
313	G. D. Phippin	Salem, Mass	Windsor Hotel
314	E. J. Bartlett	Hanover, N. H	903 Sherbrooke street
315	J. J. Justice	Standforville, N. Y	21 McGill College Avenue
316	Dr. A. A. Julien	New York	do
317	Mrs. Julien	do	do
318	A. Winchell	Ann Arbour, Mich	1591 St. Catherine street
319	Mrs. Winchell	do	do
320	Miss J. D. Winchell	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
321	C. K. Wead	Ann Arbour, Mich	903 Sherbrooke street
322	C. C. Merriman	Rochester, N. Y	24 Lorne Avenue
323	Mrs. Merriman	do	do
324	Miss G. B. Merriman	do	do
325	C. H. Fisher	Providence, R. I	———
326	H. M. Newington	St. Louis, Miss	256 St. Antoine street
327	Mrs. Ireland	do	do
328	Mrs. H. Ireland	do	do
329	G. W. Winchell	Raleigh, N. C	903 Sherbrooke street
330	Mrs. K. N. Doggett	Chicago, Ill	256 Bleury street
331	G. H. Scribner	Yonkers, N.Y	24 Lorne Avenue
332	G. H. Scribner, jr	do	do
333	H. A. Roland	Baltimore, Md	42 Victoria street
334	E. T. Nelson	Delaware, Ohio	———
335	E. W. Blake, jr	Providence, R. I	340 Bleury street
336	Mrs. Blake	do	do
337	E. W. Blake, 3rd	do	do
338	J. D. Hyatt	New York	St. James Hotel
339	Mrs. J. D. Hyatt	New York	St. James Hotel
340	E. S. Atwood	East Orange, N. J	9 Richmond place
341	Mrs. Atwood	East Orange, N. J	9 Richmond Square
342	L. Carman	Bengall, N. Y	American Hotel
343	H. A. Homes	Albany, N. Y	903 Sherbrooke street
344	R. J. Wickstead	Ottawa, Ont	Cote St. Antoine
345	C. M. Knight	Akron, Ohio	American House
346	E. C. Denassy	Trenton, Ont	do
347	H. H. Lyman	Montreal	74 McTavish street
348	W. M. Anderson	Columbus, Ohio	———
349	W. H. Ranch	Chicago, Ill	———
350	F. H Herrick	Tilton	80 Union Avenue
351	W. R. Pedrick	Lawrence, Mass	Albion Hotel
352	Mrs. L. M. Barker	Lowell, Mass	do.
353	J. S. Dixwell	Cambridge, Mass	27 Windsor street
354	Mrs. Dixwell	do	do
355	C. A. Young	Princeton, N. J	68 St. Famille
356	B. E. Barker	Lowell, Mass	Albion Hotel
357	Eleanor B. Tedrick	Lawrence, Mass	do
358	J. Logan	New York, N. Y	St. Lawrence Hall
359	Miss Logan	do	do
360	T. S. Robertson	Rockford, Ill	108 Mansfield street
361	Mrs. Robertson	do	do
362	S. W. Holman	Boston, Mass	164 Peel street
363	Arthur Perkins	Hartford, Conn	Diocesan College
364	Horatio Hale	Clinton, Ont	916 Dorchester street
365	A. R. Leeds	Hoboken, N. J	Windsor Hotel
366	Mrs. Leeds	do	do
367	H. T. Eddy	Cincinnati, Ohio	1128 Sherbrooke street
368	Mrs. Eddy	do	do
369	Miss Eddy	do	do
370	James Silliman	Easton, Pa	208 Peel street
371	Mrs. Silliman	do	do
372	E. J. Nolan	Philadelphia, Pa	211 St. Antoine street
373	G. H. Perkins	Burlington, Vt	31 McTavish street
374	L. B. Arnold	Rochester, N. Y	Windsor Hotel
375	A. H. Sabine	Burlington, Vt	947 Dorchester street
366	H. C. Hovey	New Haven, Conn	80 Union Avenue

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No.	Name.	Permanent Residence.	Residence during the Meeting.
377	E. T. Hovey	New Haven, Conn	80 Union Avenue
378	Mary Moody	Buffalo, N. Y	———
379	R. Moody	do	———
380	A. E. Heighway	Cincinnati, Ohio	903 Sherbrooke street
381	P. A. Sherman	Hanover, N. H	16 University street
382	Mrs. Sherman	do	do
383	S. H. Hudson	Clinton, N. Y	23 Shuter street
374	R. P. Whitfield	New York city	Windsor Hotel
385	Wm. Woolsey Johnson	Annapolis, Md	109 Union Avenue
386	Mrs. Johnson	do	do
387	M. Hoffman	New York city	———
388	Mrs. Fred. Hoffman	do	27 Victoria st.
389	Master O. Hoffman	do	do
390	H. Loomis	Burlington, Vt	78 Mansfield St
391	R. W. Willson	New Haven, Ct	Windsor Hotel
392	Mrs. R. W. Willson	do	do
393	Miss N. O. Glover	Brooklyn, N. Y	288 Bleury st
394	Miss M. Glover	do	do
395	Miss L. Ordway	Jamaica Plain	do
396	P. H. Vander Weyde	New York city	104 St. Famille st
397	Mrs. Vander Weyde	do	do
398	Mary P. Palmer	Boston, Mass	258 Bleury st
399	Miss C. P. Ames	Jamaica Plain	do
400	P. R. Hoy	Racine, Wis	21 Mark st
401	Miss J. Hoy	do	101 Metcalfe st
402	E. W. Davison	Baltimore, Md	Windsor Hotel
403	H. C. Lewis	Germantown, Pa	———
404	Mrs. Lewis	do	———
405	Miss Lewis	do	———
406	W. B. Dwight	Poughkeepsie N. Y	55 Argyle st
407	Mrs. E. H. Dwight	do	do
408	Miss E. Dwight	do	do
409	L. M. Holstein	Belvedere, N. J	1460 St. Catherine st
410	Mrs. G. W. Holstein	do	do
411	G. W. Holstein	do	do
412	Mrs. A. E. Holstein	do	do
413	S. W. Hammond	Boston, Mass	Windsor Hotel
414	Mrs. Hammond	do	do
415	A. W. Schaefer	Pottsville, Pa	1363 St. Catherine st
416	A. H. Chester	Clinton, N. Y	791 Sherbrooke st
417	J. Taturm	St. Louis, Mo	826 Ontario st
418	Mrs. Taturm	do	do
419	H. Davenport	Cincinnati, Ohio	Windsor Hotel
420	L. H. Armstrong	St. Nicholas, Fla	St. Lawrence Hall
421	Mrs. Armstrong	do	do
422	J. C. Kimball	Boston, Mass	42 Victoria st.
423	C. H. Winston	Richmond, Va	St. James Hotel
424	Wm. Libbey, Jr	Princeton, N. J	Windsor Hotel
425	Mrs. Libbey	do	do
426	H. R. Rogers	Dunkirk, N. Y	———
427	Mrs. T. Meehan	Germantown, Pa	1,474 St. Catherine street
428	Miss Meehan	do	do
429	Thomas Meehan	do	do
430	Miss Sarah Meehan	do	do
531	T. G. Comstock	St. Louis, Mo	Windsor Hotel
432	Mrs. Comstock	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
433	Alice W. Palmer	Roxbury	258 Bleury street
434	James A. Page	Boston, Mass	540 Bleury street
435	Miss A. M. Harmon	Ottawa	1,738 St. Catherine street
436	M. A. A. Livermore	Cambridge, Mass	22 Cathcart street
437	Elizabeth S. Knight	New York, N. Y	do
438	B. W. Eaton	Salem, Mass	11 Hanover street
439	Mary H. Stone	do	do
440	Lincoln W. Stone	Newtown, Mass	do
441	Laura P. Stone	do	do
442	Harriet P. Stone	do	do
443	Harriet L. Wolcott	Boston, Mass	do
444	Henrietta Wolcott	do	do
445	John S. Jack	Chateauguay	———
446	Grace Wolcott	Boston, Mass	11 Hanover street
447	Miss Jack	Chateauguay	———
448	Mrs. A. Jack	do	———
449	Leander Safford	Boston, Mass	207 Bleury street
450	Mary Safford	do	do
451	W. S. Stearns	New York, N. Y	1,396 St. Catherine street
452	N. L. Britton	New York City	148 Peel street
453	Arthur H. Elliott	do	27 Windsor street
454	Geo. F. Kunz	do	1,474 St. Catherine street
455	Mrs. Kunz	do	do
456	Rev. S. J. Coffin	Easton, Pa	802 Sherbrooke street
457	Mrs. Coffin	do	do
458	Charles Speck	St. Louis, Mo	799 Sherbrooke street
459	Geo. Sutton	Aurora, Ind	———
460	Georgia Sutton	do	———
461	W. H. Harding	Lunenburg, Ind	———
462	Mrs. Harding	do	———
463	Otis Bigelow	Washington	78 Mansfield street
464	R. P. Bigelow	do	do
465	S. A. Lattimore	Rochester, N. Y	903 Sherbrooke street
466	E. S. Dana	New Haven, Conn	Walbrae P. Dr. Harrington
467	Dr. Schweitzer	Columbia, Mo	32 McTavish street
468	D. S. Kellogg	Clinton, N. Y	23 Shuter street
469	Mrs. Kellogg	do	do
470	Janet W. Williams	Newton Falls, Mass	43 Mayor street
471	Mary C Moore	do	do
472	Dr. Louis Elsberg	New York city	Windsor Hotel
473	Mrs. Elsberg	do	do
474	Carl Leiler	Philadelphia, Pa	1,325 St. Catherine street
475	D. B. F. Davenport	Boston, Mass	27 Victoria street
476	Mrs. Davenport	do	do
477	Miss Emma Davenport	do	do
478	" Mattie Davenport	do	do
479	" Mary Davenport	do	do
480	C. H. Sprague	Malden, Mass	Windsor Hotel
481	Mrs. Sprague	do	do
482	Frank Baker	Washington, D. C	American House
483	Dr. Alex. S. Fenwick	London, Ont	7 Mackay street
484	Miss Louise Fenwick	do	do
485	C. J. Bernes	Chicago, Ill	17 Durocher street
486	R. Janney	Wilmington, Ohio	45 Metcalfe street
487	Miss Ella Janney	do	do
488	C. D. Zimmerman	Buffalo, N. Y	American House

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No.	Name.	Permanent Residence.	Residence during the Meeting.
489	Prof. B. Hedrick	Washington, D. C	St. Lawrence Hall
490	Mrs. Hedrick	do	do
491	Wm. H. Brewer	New Haven, Conn	Windsor Hotel
492	Wm. A Rogers	Cambridge, Mass	893 Sherbrooke street
493	J. H. Washburn	Bridgewater, Mass	88 Cathcart street
494	D. C. Gilman	Baltimore, Md	Windsor
495	Miss Gilman.	do	do
496	Mrs. Gilman	do	do
497	Miss A. Gilman	do	do
498	M. J. Morse	Lawrence, Mass	Albion House
499	Wm. Zimmermann	Chicago, Ill	American House
500	Miss Fanny Zimmermann	Buffalo, N. Y	do
501	W. J. Beal	Lansing, Mich	Richelieu Hotel
502	Miss Beal	do	do
503	Miss Beal	do	do
504	Mr. Trowbridge	Detroit, Mich	23 Hanover street
505	Mrs. Trowbridge	do	do
506	Carl Warnecke	Montreal	157 St. Constant
507	C. E. Monroe	Annapolis, Md	757 Sherbrooke street
508	Miss Stone	Chicago, Ill	101 Metcalfe street
509	Mrs. H. Stone	do	do
510	S. J. Horton	Chester, Conn	Windsor Hotel
511	Chas. V. Woers	Waltham, Mass	do
512	Thomas Taylor	Washington, D. C	893 Sherbrooke street
513	Miss Taylor	do	do
514	J. W. Doughty	Newburgh	St. James Hotel
515	Nath. Paine.	Worcester, Mass	1396 St. Catherine
516	Miss Paine	do	do
517	R. V. Merchant	East Plymouth, Mass	American House
518	Mrs. Merchant	do	do
519	J. Anderson	Waterbury, Conn	41 St. Mark street
520	Mrs. J. Anderson	do	do
521	Edwin Harrison	St. Louis, Mo	799 Sherbrooke street
522	Mrs Harrison	do	do
523	Mr. J. K. Rees	New York, N. Y	Windsor Hotel
524	R. H. Word.	Troy, N. Y	20 Beaver Hall
525	J. S. Copes	New Orleans	757 Sherbrooke street
526	Miss E. Herman.	New York, N. Y	Windsor Hotel
527	John Trowbridge	Cambridge, Mass	do
528	Mrs. J. Trowbridge	do	do
529	Miss Alice Gray	do	do
530	Wm. H. Barr	Troy, N.Y	do
531	Mrs. Barr	do	do
532	Thos. S. Gladding	New York, N.Y	205 Mansfield street
533	Wm. Gladding	do	do
534	A. W. Butler	Brockville, Ind	American House
535	A. B. Henry	Taunton, Mass	1619 St. Catherine street
536	Miss Curo	Keysville, N.Y	1128 Sherbrooke street
537	T. R. Pynchon	Hartford, Conn	21 McGill College Ave
538	T. Beall	Lindsay, Ont	11 Burnside Place
539	Louisa Frost	Yonkers, N.Y	24 Lorne Avenue
540	Mr. Dalbras	College Hill, Mass	———
541	C. Roosevelt	New York, N.Y	1070 St. Catherine street
542	J. W. Lovell	do	1283 St. Catherine street
543	Mrs. Lovell	do	do
544	Mrs. J. W. Lovell	do	do
545	Joseph Libbey	Georgetown, D.C	Windsor Hotel
546	Mrs. E. Orton	Columbus, O	799 Sherbrooke street
547	E. Orton	do	do
548	E. W. Claypole	Perry Co., Pa	42 Prince Arthur street
549	Mrs. Claypole	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
550	Pliny E. Chase	Haverford, Pa	168½ St. Denis street
551	Eliz. B. Chase	do	do
552	Maria Chase	do	do
553	Harriet Chase	do	do
554	James E. Oliver	Ithaca, N.Y	do
555	Martha Oliver	do	do
556	May Oliver	do	do
557	J. D. Warner	Brooklyn, N.Y	Richelieu Hotel
558	Miss Warner	do	do
559	Mrs. J. D. Warner	do	do
560	Miss L. Warner	New York, N.Y	do
561	Mrs. Weld	do	do
562	H. E. Smith	Hartford, Conn	14 McGill College Ave
563	J C. Whiti	Morgantown, W. Va	23 Hanover street
564	A. Tuttle	Columbus, O	Windsor Hotel
565	Mrs. Tuttle	do	do
566	J. S. Hicks	Roslyn, N Y	St. Lawrence Hall
567	Miss Hicks	do	do
568	S. D. Purinton	Greenville, S. C	23 Hanover street
569	J. A. Lentner	Albany, N. Y	764 Sherbrooke street
570	Mrs. Lintner	do	do
571	Dr. J. W. Gilbert	Rothampsted, Eng	182 University street
572	S. Marsden	St. Louis, Mo	St. James Hotel
573	Miss M. F. Waeling	Washington, D. C	———
574	Henry Waeling	do	———
575	Nellie M. Arnold	do	———
576	Eliz. B. Waeling	do	———
577	Mrs. J. W. Gilbert	Rothampsted, Eng	182 University street
578	Asa Gray	Cambridge, Mass	Dr. Dawson
579	Mrs. Gray	do	do
580	A. C. Fletcher	do	108 Union Avenue
581	Mary Lyndall	Omaha, Ind	do
582	Mr. A. B. Bleckoett	Somerville, N. J	903 Sherbrooke
583	Mary E. Owens	Cincinnati, O	101 Metcalfe street
584	Mrs. Wm. Owens	do	do
585	H. L. Smith	New York, N. Y	29 Burnside street
586	Jenny Smith	do	do
587	R. M. Atwater	Milleville	1673 St. Catherine
588	Abby Atwater	do	do
589	Louis H. Pignolet	Montreal	104 St. Famille
590	Mrs. Pignolet	do	do
591	Miss Pignolet	do	do
592	Louis M. Pignolet	do	do
593	Benj. Cotting	Roxbury, Mass	Dr. Hingston
594	H. S. Evans	Montreal	400 Sherbrooke
595	Mrs. Evans	do	do
596	Miss Evans	do	do
597	G. F. Markoe	Boston, Mass	do
598	Mrs. Markoe	do	do
599	Henry A. Jones	Portland, Me	Windsor Hotel.
600	Mrs. Jones	do	do
601	Robert Brown	New Haven, Conn	791 Sherbrooke st.
602	Mrs. Brown	do	do
603	Miss Brown	do	do
604	Dr. A. J. Howe	Cincinnati, O.	———
605	Mrs. Howe	do	———
606	H. Fairbank	St. Johnsburg, Vt	Windsor Hotel.
607	D. W. Prentis	Washington, D.C	do
608	Mrs. Prentis	do	do
609	Miss Carman	do	———
610	Mr. Canfield	do	———

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No.	Name.	Permanent Residence.	Residence during the Meeting.
611	S. Fleming	Ottawa	Windsor Hotel.
612	Mrs. J. Hall	Albany, N.Y	600 Sherbrooke st.
613	Miss Anna Hall	do	do
614	Mrs. Barler	Montreal	do
615	C. F. Clapp	S. Hadley, Mass	———
616	Miss A. Fay	do	———
617	Wm. J. Johnson	Washington, D.C	Windsor Hotel.
618	W. H. Manning	Reading, Mass	Albion Hotel.
619	Mrs. Manning	do	do
620	J. Edwards	Cambridge, Mass.	903 Sherbrooke st.
621	Miss Edwards	do	do
622	S. W. Will	Washington, D.C	916 Dorchester st.
623	P. W. Schaefer	Stotsville, Pa	Windsor.
624	Miss L. Schaefer	do	do
625	Henry Schaefer	do	do
626	H. Cargill	Toronto	St. Lawrence.
627	E. D. Tappan	Sambre, O	31 Donegana st.
628	Mrs. Tappan	do	do
629	J. H. Wright	Hanover, N.H	do
630	E. R. Leland	New York, N.Y	Windsor.
631	Ruth Leland	do	do
632	C. F. Hitchcock	Hanover, N.H	do
633	S. H. Snelling	Boston, Mass	do
634			
635	Mrs. J. R. Dodge.	Washington, D.C	898 Dorchester street
636	Sarah M. Dawson	Boston, Mass	161 Mountain street
637	Fanny Dawson	do	do
638	Louis C. Wartele	Actonvale, Q	901 Sherbrooke street
639	Mary Wartele	do	84 St. Hubert street
640	Miss Fortier	do	901 Sherbrooke street
641	E. G. Miller	Baltimore	St. Lawrence Hall
642	Susan P. Boynton	Lynn, Mass	———
643	Chas. S. Hastings	Baltimore	211 Peel street
644	R. B. Warder	Cincinnati, O	Cote St. Antoine, J. Little
645	Miss A. Warder	do	do
646	T. W. Mills	Montreal	561 Dorchester street
647	F. L. Capel	Boston, Mass	McGill College
648	F. B. Hough	Lowville, N.Y	St. Lawrence Hall
649	John Eaton	Washington, D.C	do
650	Mrs. Eaton	do	do
651	C. Mohr	Mobile, Alb	do
652	H. A. Smith	Cincinnati, O	Windsor Hotel
653	F. A. Sulley	Oktibbeha Co., Miss	Richelieu Hotel
654	A. Melville Bell	Georgetown, D.C	Windsor Hotel
655	S. M. Merryweather	Cincinnati, O	79 Mansfield street
656	S. W. Merryweather	Bellefontaine, O.	do
657	J. H. Pillsbury	Springfield, Mass	903 Sherbrooke street
658	E. L. Nichols	Richmond, Ky	———
659	H. Snyder, Jr	Columbus, O	Richelieu Hotel
660	C. F. Lamb	Rochester, N.Y	Windsor Hotel
661	John W. Spencer	Sullivan Co., Ind	1130 St. Catherine street
662	N. M. Terry	Annapolis, Md	Windsor—90 Union Ave
663	Mrs. C. A. Terry	do	do
664	H. M. Parkhurst	New York, N.Y,	———
665	Mrs. Parkhurst	do	———
666	Miss Ida Parkhurst	do	———
667	Rev. S. Bush	Waterford, NY	———
668	J. I. B. Huides	Lebanon, Tenn	903 Sherbrooke street
669	A. C. Hamlin	Bangor, Me.	113 University street
670	Prof. Webster	Norfolk, Va	Windsor
671	Mrs. Webster	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
672	Louis Swift	Rochester, N.Y	1357 St. Catherine St
673	Mrs. Swift	do	do
674	Miss H. Hamlin	———	113 University St
675	Miss Stetson	———	do
676	Mrs. A. C. Hamlin	Bangor, Me	do
677	Benj. F. Thomas	Columbia, Mo	St. Lawrence Hall
678	S. P. Hart	Hamilton Co., O	20 University St
679	Mrs. Hart	do	do
680	R. B. Hare	Guelph, Ont	87 Cathedral St
681	Mrs. Hare	do	do
682	Mary R. Alling	Boston, Mass	207 Bleury St
683	Mrs. S. H. Perkins	Burlington, Vt	31 McTavish St
684	J. W. Chickering	Washington, D.C	78 Mansfield St
685	W. H. Leaman	do	537 St. Lawrence St
686	Mrs. Leaman	do	do
687	Miss S. E. Clark	do	do
688	Wm. Bross	Chicago	Windsor
689	L. B. Fletcher	Marlboro, N.Y	———
690	Chas. R. Dodge	Washington, D.C	852 Dorchester St
691	Mrs. Dodge	do	do
692	Miss F. White	Pittsfield, Mass	do
693	H. P. Bowditch	Boston, Mass	66 McGill College Avenue
694	Mrs. Bowditch	Jamaica Plain	do
695	C. Constable	New York, N.Y	31 McTavish St
696	Thos. McFadden	Westerville, O	———
697	Robt. C. Adams	Montreal	45 Metcalfe St
698	De Volson Wood	Hoboken, N.J	———
699	Miss A. Wurtfeldt	St. Louis, Mo	207 Bleury St
700	Miss E. Wurtfeldt	do	do
701	A. P. Hallock	New York, N.Y	———
702	Mrs. Hallock	do	do
703	F. W. Crosby	Washington, D.C	Victoria House
704	Hannah E. Crosby	do	do
705	F. A. Sulley	Oktibbeha Co., Miss	Richelieu Hotel
706	E. L. Hood	Minneapolis, Minn	Canada Hotel
707	W. Crosby	Boston, Mass	207 Bleury St.
708	Eliz. Curtis	Jamaica Plain	do
709	Alice B. Crosby	Boston, Mass	do
710	F. Spier	S. Orange, N. Y	Windsor Hotel
711	C. A. Miller	Carthage, O	do
712	C. A. Miller	do	do
713	L. A. Miller	Cincinnati, O	do
714	Mrs. Miller	do	do
715	R. M. Byrnes	do	do
716	Mrs. Byrnes	do	do
717	Ed. Murphy	Montreal	1526 St. Catherine
718	T. J. Wilmot	Rye, N.H	149 Durocher st
719	T. R. Lonnesbury	New Haven, Conn	Windsor Hotel
720	Sarah F. Whiting	Wellesley, Mass	do
721	T. H. Jones	do	do
722	L. M. Hodgkins	do	do
723	Marion Pelton	do	do
724	H. F. Osborn	Princeton, N.J	do
725	Miss A. L. Wingate	Brooklyn, N.Y	903 Sherbrooke st
726	S. L. Frey	Palatine Bridge, N.J	28 Cathcart street
727	Mrs. A. E. Frey	do	do
728	John S. Clark	Boston, Mass	317 Drummond street
729	S. F. Peckham	Providence, R.I	Windsor Hotel
730	Dr. O. D. Norton	Cincinnati, O	do
731	Rev. J. Cummings	Evanston, Ill	56 University street
732	O. Atwood	Rutland, Vt	1283 St. Catherine street.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
733	Ed. Drummer	Boston, Mass.	Canada Hotel
734	James Troop	Lansing, Mich	Richelieu Hotel
735	J. B. Stone	Detroit, Mich	23 Hanover street
736	Mrs. Stone	do	do
737	A. B. Howe	New Haven, Mich	903 Sherbrooke street
738	J. P. Iddings	Orange, N.J	41 McGill College Av.
739	Henry Stone	New York, N. Y	St. Lawrence Hall
740	Mrs. C. E. Whiton	do	do
741	Miss E. Whiton	do	do
742	Abbé Chabert	Montreal	111 Notre Dame street
743	T. W. Gleeson	Boston, Mass.	Cathedral street
744	L. W. Andrews	Brooklyn, N. Y.	404 St. Antoine street
745	Miss J. Andrews	do	do
746	Miss Hutchison	do	do
747	B. B. Dale	Cincinnati, O.	Albion Hotel
748	John Wanless	Montreal	88 Union Avenue
749	Mrs. Wanless	do	do
750	James Wanless	do	do
751	Miss Wanless	do	do
752	Brown Ayres	New Orleans, La.	———
753	Richard Colburn	Elizabeth, N. J.	Victoria Hotel
754	Mrs. Colburn.	do	do
755	B. Fernon	Statington, Pa.	77 Mansfield street
756	S. F. Ballow	Waltham, Mass	———
757	Alvan Moore	Magog, Q	St. Lawrence Hall
758	Mrs. Constable	Constableville, N. Y	31 McTavish street
759	Prof. Purinton	Morgantown	23 Hanover street
760	H. O. Marcy	Boston, Mass	27 Windsor street
761	L. E. Russell	Springfield, O.	———
762	Mrs. Russell	do.	———
763	Mrs. E. M. Stone	Providence, R. I.	11 Hanover street
764	A. Proudfoot	Montreal	2 Phillips Place
765	Mrs. Proudfoot	do.	do
766	Miss Cleveland	Michigan, Ill.	88 Drummond street
767	Anna J. Morton	do.	do
768	Marion Fortescue	New York City	Windsor Hotel
769	Miss Fortescue	do.	do
770	E. L. Youmans	do.	do
771	Mrs. Youmans	do.	do
772	Joseph Bemrose	Montreal	Box 158
773	James Fletcher	Ottawa	———
774	W. H. Harrington	Ottawa	———
775	T. Townsend	Durham, Ont.	Victoria House.
776	E. Hungerford	Wellington, Ont	80 University street.
777	Miss Hungerford	do	do
778	C. J. Blake	Boston	15 Ontario street.
779	Mrs. C. Blake	do	do
780	Miss Hughes	do	do
781	Chas. H. Pettee	Hanover, N.H	Richelieu Hotel
782	H. F. Homes	Albany, N.Y	903 Sherbrooke street.
783	W. A. Silliman	Clarkson, N.Y	281 University street.
784	Miss Bellinger	do	do
785	Miss A. Williams	———	———
786	Maria Thompson	Cincinnati, O	791 Sherbrooke street.
787	Mrs. A. B. Smith	St. Albans, Vt	Windsor.
788	Miss H. Smith	do	do
789	W. H. Lynch	Danville, P.Q.	486 Ontario street.
790	Geo. Baptie	Ottawa	———
791	Rev. S. Heine	Montreal	———
792	S. T. Robins	do	Hochelaga.
793	R. H. Lambern	New York.	Windsor.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
794	A. N. Phelps	Chateauguay, N.Y	do
795	S. L. Marler	Montreal	18 Fort street
796	Fred. H. Hedge	Boston, Mass	Windsor
797	John Kennedy	Montreal	113 University street.
798			
799	Miss J. Haight	do	1738 St. Catherine street.
800	A. C. Bowser	New Brunswick, N.J	St. Lawrence Hall.
801	Mrs. B. H. Dickson	Montreal	88 Union Av.
802	Miss B. Latour	do	36 McGill street.
803	Mrs. Lotour	do	do
804	Miss M. Latour	do	do
805	Mr. Bossom	do	do
806	Miss M. Bossom	do	do
807	A. P. Stewart	Lincoln, Neb	Windsor.
808	Mrs. Stewart	do	do

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,

MONDAY, AUGUST 28.

OFFICERS OF THE ASSOCIATION.

FOR THE

MONTREAL MEETING.

PRESIDENT.

J. W. DAWSON, of Montreal.

VICE-PRESIDENTS.

A. **Mathematics and Astronomy**—W. A. ROGERS, of Cambridge, in the absence of WILLIAM. HARKNESS, of Washington.
B. **Physics**—T. C. MENDENHALL, of Columbus.
C. **Chemistry**—H. C. BOLTON, of Hartford.
D. **Mechanical Science**—W. P. TROWBRIDGE, of New Haven.
E. **Geology and Geography**—E. T. COX, of San Francisco.
F. **Biology**—W. H. DALL, of Washington.
G. **Histology and Microscopy**—A. H. TUTTLE, of Columbus.
H. **Anthropology**—ALEXANDER WINCHELL, of Ann Arbor, in the absence of DANIEL WILSON, of Toronto.
I. **Economic Science and Statistics**—E. B. ELLIOTT, of Washington.

PERMANENT SECRETARY

F. W. PUTNAM, of Cambridge.

GENERAL SECRETARY.

WILLIAM SAUNDERS, of London, Ontario.

ASSISTANT GENERAL SECRETARY.

J. R. EASTMAN, of Washington.

SECRETARIES OF THE SECTIONS.

A. **Mathematics and Astronomy**—H. T. EDDY, of Cincinnati.
B. **Physics**—CHAS. S. HASTINGS, of Baltimore.
C. **Chemistry**—ALFRED SPRINGER, of Cincinnati.
D. **Mechanical Science**—J. BURKITT WEBB in absence of CHARLES B. DUDLEY, of Altoona.
E. **Geology and Geography**—H. S. WILLIAMS, Ithaca, N.Y. in absence of C. E. DUTTON, of Washington.
F. **Biology**—WM. OSLER, of Montreal, in absence of CHARLES S. MINOT, of Boston.
G. **Histology and Microscopy**—ROBERT BROWN, JR., of New Haven.
H. **Anthropology**—OTIS T. MASON, of Washington.
I. **Economic Science and Statistics**—F. B. HOUGH, of Lowville.

TREASURER.

[WILLIAM S. VAUX, the Treasurer elect, died in May last.]

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MEMBERS

OF THE

STANDING COMMITTEE

FOR THE

MONTREAL MEETING.

Past Presidents.—JAMES D. DANA, of New Haven; JAMES HALL, of Albany; STEPHEN ALEXANDER, of Princeton; ISAAC LEA, of Philadelphia; F. A. P. BARNARD, of New York; J. S. NEWBERRY, of New York; B. A. GOULD, of Boston; T. STERRY HUNT, of Montreal; ASA GRAY, of Cambridge; J. LAWRENCE SMITH, of Louisville; JOSEPH LOVERING, of Cambridge; JOHN L. LECONTE, of Philadelphia; J. E. HILGARD, of Washington; SIMON NEWCOMB, of Washington; O. C. MARSH, of New Haven; GEORGE F. BARKER, of Philadelphia; GEORGE J. BRUSH, of New Haven.

Vice-Presidents of the Last Meeting.—WILLIAM HARKNESS, of Washington; E. T. COX, of San Francisco.

Officers of the Present Meeting.—J. W. DAWSON, of Montreal; WM. HARKNESS, of Washington; T. C. MENDENHALL, of Columbus; H. C. BOLTON, of Hartford; W. P. TROWBRIDGE, of New Haven; E. T. COX, of San Francisco; W. H. DALL, of Washington; A. H. TUTTLE, of Columbus; DANIEL WILSON, of Toronto; E. B. ELLIOTT, of Washington; F. W. PUTNAM, of Cambridge; WM. SAUNDERS, of London; J. R. EASTMAN, of Washington; H. T. EDDY, of Cincinnati; C. S. HASTINGS, of Baltimore; ALFRED SPRINGER, of Cincinnati; J. BURKITT WEBB, of Ithaca; H. S. WILLIAMS, of Ithaca; WM. OSLER of Montreal; ROBERT BROWN, JR., of New Haven; O. T. MASON, of Washington; F. B. HOUGH, of Lowville, ALEXANDER WINCHELL, of Ann Arbor, W. A. ROGERS, of Cambridge.

From the Association at Large.—One Fellow elected from each section. W. W. JOHNSON, Annapolis; Dr. P. R. HOY, of Racine; E. W. BLAKE, of Providence; S. A. LATTIMORE, of Rochester; G. H. COOK, of New Brunswick; A. J. COOK, of Lansing; R. H. WARD of Troy; DE VOLSON WOOD, Hoboken; C. A. YOUNG, of Princeton.

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ANNOUNCEMENT OF THE LOCAL SECRETARIES.

The sessions of the Association, which begun on Wednesday, August 23rd, at 10 a.m., will be held in the buildings of the McGill University. The offices of the Permanent Secretary and the Local Secretaries, with Post-office, Express, Telegraph and Telephone, will be in the central building of the College, and the General Sessions will be held in the William Molson Hall. The Queen's Hall, in University Street, will, however, serve for public evening meetings.

Members are requested to call and register their names at the offices of the Permanent and Local Secretaries, in the central building, McGill College, as soon as possible after their arrival. They are requested to enter separately each member of their families accompanying them. Each person so registered will receive a ribbon, stamped with the number against his or her name on the register, and is requested to wear it during the meeting. This will greatly facilitate the local arrangements. Upon registering their names, members will receive a hand-book of Montreal, prepared by the Local Committee.

Members of the Local Committee will be in waiting at the Committee Room each day, to render such assistance as may be needed, and will be designated by a badge.

Members of the Railway Committee will be in attendance at the Committee Room, daily, to give such information as may be in their power.

Members of the Excursion Committee will be in attendance at the same place, and members of the Association intending to avail themselves of the opportunities offered, will please register their names for the several excursions as soon as possible.

The excursion to Lake Memphremagog by the South Eastern Railway, and that to Lachine by the Grand Trunk Railway, are given by these lines free of charge.

Through the liberality of the Western Union Telegraph Co., and the Great North-Western Telegraph Company, telegraphic messages relating to family, social or scientific matters, will be sent from Montreal, during the meeting, for members of the Association, free of charge to all parts of the United States and Canada.

Members going to hotels will be taken thither with baggage at twenty-five cents. There will also be omnibuses plying between the College and the principal hotels for a fare of ten cents. These omnibuses will be marked, A.A.A.S.

There will be a daily luncheon in a temporary building in the College grounds, for which tickets may be purchased at the door.

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The Association Post-office will be found in the central building of the College. The office will be open from 8 a.m. to 6 p.m., from August 22nd to 31st, excepting on Sunday, when it will be open only from 2 to 4 o'clock p.m.

Mails will be received three times a day: at 8 a.m., 10 a.m., and at 2 p.m. Letters will be sent to the main office at 2 p.m., 5 p.m., and at 6.30 p.m. Express packages will be received and delivered at the Association Post-office.

The City Directory, Pathfinder, Railway Time-tables, Railway Guides, &c., will be found at the office of the Local Secretaries.

Representatives of the press in attendance upon the meeting can obtain special tickets on application to the Local Secretaries.

General invitations have been extended to the members of the Association by:—

The Library and Museum of McGill University;

The Library of the Mechanics' Institute of Montreal, St. James Street;

The Gallery of the Art Association of Montreal, Phillips Square;

The Museum of the Natural History Society of Montreal, University Street;

The Collections of the Numismatic Society in the Natural History Society's building, University Street;

The Reading Room of the Young Men's Christian Association, Victoria Square;

Merchants' Exchange Reading Room, St. Sacrament Street;

By favor of Messrs. Allan the Steamship "PARISIAN" is open for the inspection of members. Permits may be had at the office of the Local Secretary. The steamer is berthed near the entrance to the Canal at the foot of McGill Street, and will remain open every day until Tuesday.

EXCURSION TO LACHINE AND DOWN THE RAPIDS.

Persons desiring to make this trip may leave the Bonaventure Depot either at 7 a. m., 7.55 a. m., or at 5 p. m. on any week day from the 23rd to the 30th inst.

The ticket, with which each will be provided by application at the office in McGill College, must be given up on board the steamer at Lachine.

EXCURSION TO NEWPORT.

Persons desiring to join this excursion will leave the Bonaventure Depot on Thursday, the 31st inst., at 8 a.m., sharp. The S. E. R. will entertain the excursionists at dinner at the Memphremagog House, Newport. The Steamer *Lady of the Lake* will then leave for a trip on the lake. The train will leave for Montreal at 6.30 p.m.

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EXCURSION TO HARBOUR, VICTORIA BRIDGE, AND GRAND TRUNK WORKSHOPS.

The Harbour Commissioners' steamer will leave the Jacques Cartier or Island Ferry Wharf, at foot of Jacques Cartier Square, Wednesday, 30th, at 2 p.m., *sharp*, reaching the Canal Basin about 3 p.m., when the members of the excursion will enter the train provided by the G.T.R., and visit the Victoria Bridge, Workshops, etc.

The Excursions to Lachine by the Grand Trunk Railway; to Quebec by the Richelieu and Ontario Navigation Co.'s steamer, and return by the North Shore Railway; to Ottawa, by the Canadian Pacific Railway; to Newport, by the South Eastern Railway, are given by these companies free of cost.

The excursion to the Harbour, Victoria Bridge, and Grand Trunk Workshops is by the courtesy of the Harbour Commissioners and the Grand Trunk Railway Co.

IROQUOIS HOUSE, ST. HILAIRE.

During the meeting of the A. A. A. S. Messrs.Campbell Brothers, for a party of fifteen or more offer to provide an omnibus from McGill University at 5 p. m. to the G. T. R. Station for train at 5.20 p. m., return ticket for St. Hilaire, supper, bed and breakfast, for three dollars. The attractions of Belœil Mountain and Lake in close proximity to the city, will, it is hoped, lead to a large party availing themselves of these liberal terms.

LORNE HOUSE, VARENNES MINERAL SPRINGS, VARENNES, P. Q.

This very comfortable hotel at one of the most popular summer resorts in Canada, may be reached by Steamer leaving Jacques Cartier Wharf at 5 p. m. Returning the Steamer leaves Varennes at 7.50 a. m., reaching Montreal at 9 a. m.

The trip through the St. Lawrence is delightful, and will be found refreshing after a day's Association work.

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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary, central building, McGill University, as soon as possible after arrival, to receive their members' tickets.

All assessments and admission-fees must be paid at the office of the Permanent Secretary, and the assessment for the meeting must be paid before registering with the Local Secretaries.

A list of newly elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for Recommendation to Membership can be obtained at the office of the Permanent Secretary.

A subscription-list for the Montreal volume of proceedings is open at the office of the Permanent Secretary; and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50 or more, will receive a copy of the volume, by mail, as soon as published.

The volumes of the Proceedings of the Association can be obtained from the Permanent Secretary at the price of $1.50 per volume; or any member wishing for ten or more volumes, in order to complete a set, may obtain them at $1.00 per volume. The volumes may be had bound in cloth for the extra price of 50 cts. each, or in half morocco for the extra price of $1.00 each. Uniform cloth covers for the volumes will be furnished by mail

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at 30 cts. each, or by express for 25 cts. each. Copies of volumes 2, 22, 27 and 28 will be received in exchange for other volumes, or will be purchased at $1.00 each. At present copies of volume 27 can only be furnished to members, or on orders, as they are obtained.

The Memoir on Fossil Butterflies, by Mr. S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, 4to, 1875, will be furnished at $2.00 a copy, or at $3.50 bound in half morocco. The Transactions of the American Association of Geologists and Naturalists, 1 vol., 8vo., 1843, bound in cloth, can be obtained at $3.00 a copy, or bound in half morocco, uniform with the Proceedings, for $4.00.

At the Boston meeting the Standing Committee called attention to the importance of re-printing several volumes of the Proceedings of this Association, but stated that this could not be done without the liberal assistance of members and others interested, and asked for subscriptions for this purpose. As full sets of the Proceedings are in demand, particularly in consequence of the late increase in membership, it is hoped that the necessary means will be secured for this purpose. The re-printing of two volumes is now desirable, and of two others only a small number of copies remain. Subscriptions of any amount are therefore earnestly solicited, and all such will be acknowledged by the *Permanent Secretary*, by letter, and also in a printed list of subscribers. The Secretary has the pleasure of stating that $204 have already been received from members for this purpose, and that Gen. Wm. Lilly has given $1000 for the re-printing and stereotyping of volume 26, copies of which will be ready for delivery early in September. The Permanent Secretary has the pleasure to add that a member who wishes to be unknown has given $850 since the Montreal meeting begun.

The Cincinnati Volume has been sent to every member who paid the assessment to the meeting previous to August 17th. Those paying since that date, and those paying back-assessments at Montreal, will receive the volumes to which they are entitled by mail early in September.

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MORNING.

Meeting of the STANDING COMMITTEE at 9 o'clock at the Windsor Hotel.

GENERAL SESSION in the Molson Hall at 10 o'clock.

Election of Fellows.

Reports will be expected from the following

SPECIAL COMMITTEES.

1. *Permanent Committee on Weights, Measures and Coinage.*

F. A. P. BARNARD, of New York,
B. A. GOULD, of Boston.
J. E. HILGARD, of Washington,
H. A. NEWTON, of New Haven,
J. LAWRENCE SMITH, of Louisville,
E. B. ELLIOTT, of Washington.
JOHN TROWBRIDGE, of Cambridge.
A. M. MAYER, of Hoboken.

2. *Committee to memorialize the Legislature of New York, for a New Survey of Niagara Falls.*

G. W. HOLLEY, of Niagara Falls.
J. T. GARDNER, of Albany.

3. *Committee to obtain Permanent Funds for the Association, and to advise with Treasurer and Permanent Secretary on financial matters.*

J. LAWRENCE SMITH, of Louisville,
ALEXANDER AGASSIZ, of Cambridge
ROBERT H. THURSTON, of Hoboken.

4. *Committee on Membership.*

THE MEMBERS OF THE STANDING COMMITTE.

5. *Committee on the best methods of Science Teaching in the Public Schools.*

E. L. YOUMANS, of New York,
A. R. GROTE, of New York,
J. S. NEWBERRY, of New York,
J. W. POWELL, of Washington,
N. S. SHALER, of Cambridge,
N. T. LUPTON, of Nashville,

6. *Committee on the Registration of Deaths, Births and Marriages.*

E. B. ELLIOTT, of Washington,
J. B. KILLEBREW, of Nashville,
E. T. COX, of San Francisco,
F. B. HOUGH, of Lowville,
J. S. COPES, of New Orleans,
JOHN COLLETT, of Indianapolis.

7. *Committee on Standard Time.*

ORMOND STONE, of Mt. Lookout,
S. P. LANGLEY, of Alleghany,
E. C. PICKERING, of Cambridge.
J. R. EASTMAN, of Washington,
LEWIS BOSS, of Albany,
LEONARDO WALDO, of New Haven,
J. K. REES, of St. Louis,
G. W. HOUGH.
S. H. PRITCHETT, of Glasgow.

8. *Committee on Stellar Magnitudes.*

E. C. PICKERING, of Cambridge,
LEWIS BOSS, of Albany,
S. W. BURNHAM, of Chicago,
ASAPH HALL, of Washington,
WILLIAM HARKNESS, of Washington,
E. S. HOLDEN, of Madison,
SIMON NEWCOMBE, of Washington.
C. H. F. PETERS, of Clinton.
ORMOND STONE, of Mt. Lookout.
C. A. YOUNG, of Princeton.

9. *Committee on State Geological Surveys.*

G. C. SWALLOW, of Columbia,
JAMES HALL, of Albany,
JOHN R. PROCTER, of Frankfort,
N. H. WINCHELL, of Minneapolis,
W. C. KERR, of Raleigh,
J. W. POWELL, of Washington.
EDWARD ORTON, of Columbus.

10. *Committee to coöperate with the committee of the American Philological Association in relation to the proper restriction of the Degree of Ph. D.*

GEORGE J. BRUSH, of New Haven,
H. C. BOLTON, of Hartford,
F. A. P. BARNARD, of New York,
J. P. LESLEY, of Philadelphia,
F. W. CLARKE, of Cincinnati.

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Meetings of the SECTIONS after adjournment of General Session.

AFTERNOON.

Recess for Lunch, from 1 to 2-30 o'clock.

Meetings of the SECTIONS at 2-30 o'clock.

EVENING.

Public Lecture in the Queen's Hall at eight o'clock, by Prof. ALEXANDER MELVILLE BELL on Visible Speech.

Meeting of the NOMINATION COMMITTEE, at the Windsor Hotel, at 9 o'clock.

THE SECTIONS.

SECTION A.—MATHEMATICS AND ASTRONOMY.

(Will meet in Room 3, Second Floor, Presbyterian College.)

Vice-President.—W. A. ROGERS, of Cambridge.

Secretary.—H. T. EDDY, of Cincinnati.

Sectional Committee.

H. T. Eddy, of Cincinnati; G. W. Hill, of Washington; Leonard Waldo, of New Haven; C. A. Young, of Princeton.

Nomination Committee.

W. W. Payne, of Northfield.

Sub-Committee on Nomination.

H. T. Eddy, of Cincinnati; F. A. Sherman, of Hanover; R. W. Wilson, of Cambridge; C. H. Rockwell, of Tarrytown.

PAPERS TO BE READ IN SECTION A.—MONDAY.

Conclusion of Prof. Johnson's paper.

1. (175) On the performance of a New Form of Astronomical Level. 6 m. WM. A. ROGERS.

2. (177) On a Method of reducing different Catalogues of Stars to a homogeneous system. 6 m. WM. A. ROGERS.

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3. (198) Some suggestions on the Nature of Comets, in connection with recent Astronomical and Electrical Discoveries. 4 m.

P. H. VANDER WEYDE.

4. (220) A method of finding the law of linear elasticity in a metal. 10 m.

JAMES E. OLIVER.

5. (221) On the law of distribution for certain plant numbers. 15 m.

JAMES E. OLIVER.

6. (45) New views of Mr. George H. Darwin's Theory of the Evolution of the Earth—Moon System, considered as to its bearing on the question of the duration of Geological Time.

SAMUEL HOUGHTON.

7. (226) A method of Eliminating the personal equation in transit observations. 15 m.

J. BURKITT WEBB.

SECTION B.—PHYSICS.

(Will meet in Library, First Floor, Presbyterian College.)

Vice-President.—T. C. MENDENHALL, of Columbus.

Secretary.—CHARLES S. HASTINGS, of Baltimore.

Sectional Committee.

T. C. MENDENHALL, of Columbus.
CHARLES S. HASTINGS, of Baltimore.
C. K. WEAD, of Ann Arbor.
A. E. DOLBEAR, of College Hill.
H. A. ROWLAND, of Baltimore.

Nominating Committee.

T. F. JEWELL, of Newport.

Sub-Committee on Nominations.

T. C. MENDENHALL, of Columbus.
C. S. HASTINGS, of Baltimore.
N. D. C. HODGES, of Cambridge.
J. D. MURDOCH, of Annapolis.

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PAPERS TO BE READ IN SECTION B ON MONDAY.

1. (187) On the duration of Color Impressions upon the Retina. 20 m. E. S. NICHOLS.
2. (197) On the diatonic scales obtained in the chromatic scales of equal temperament of 12, 19, and 31 tones in the octave, with exhibition of novel scale indicators and correcting keyboard. 5 m. P. H. VANDER WEYDE.
3. (5) Danger from Lightning increased by Telegraph wires. 5 m. STEPHEN S. HAIGHT.
4. (43) The Force of Diffusion of the Gases forming the atmosphere. 5 m. GEORGE ILES.
5. (94) On Secondary Batteries. 15 m. GEORGE F. BARKER.
6. (99) The Spectroscopic Rain-band. 10 m. WINSLOW UPTON.
7. (105) Electric Induction by Stress. 15 m. S. W. ROBINSON.
8. (124) A new Soil Thermometer. 10 m. D. P. PENHALLOW.
9. (165) On Electrical Conduction *vs.* Induction. 10 m. A. E. DOLBEAR.
10. (166) On the Telephone as an explorer in an electric field. m. A. E. DOLBEAR.
11. (167) On Vortex Ring Phenomena. 5 m. A E. DOLBEAR.
12. (168) On Telegraphing without Wires. 10 m. A. E. DOLBEAR.
13. (174) Determination of the relation ;—— Metre des Archives =Imperial Yard+3.37015 inches. 18 m. W. A. ROGERS.
14. (199) On a mean direction integration Anemometer. 12. m. CHARLES K. WEAD.
15. (196) On certain complex flame spectra of Sodium. 10 m. C. S. HASTINGS.
16. (218) Note on the appearance of a halo on the evening Aug. 4th, 1882. 5 m. JAS. D. WARNER

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SECTION C.—CHEMISTRY.

(Will meet in Chemical Class Room, First Floor, Centre Building.)
Vice-President.—H. C. BOLTON, of Hartford.
Secretary.—ALFRED SPRINGER, of Cincinnati.

Sectional Committee.

H. C. Bolton, of Hartford; Alfred Springer, of Cincinnati; Geo. C. Caldwell, of Ithaca; Robert C. Kedzie, of Lansing; E. W. Morley, of Hudson.

Nominating Committee.

A. A. Julien, New York; Paul Schweitzer, Columbia; A. R. Leeds, Hoboken.

PAPERS TO BE READ IN SECTION C.—MONDAY AFTERNOON.

1. (195) Direct estimation of Dextrose, Dextrine, and Maltose in Commercial Amylose (Sugar Starch). 20 m.
HARVEY W. WILEY.
2. (44) Determinations of Nitrogen in the soils of some of the experimental fields at Rothamsted, and the bearing of the results on the question of the Sources of the Nitrogen of our Crops. 60 m.
J. B. LAWES AND J. H. GILBERT.
3. (192) Estimation of Dextrine in Solid Commercial Starch Sugar by loss of Rotatory power on Solution. 15 m.
HARVEY W. WILEY AND C. A. CROMPTON.
4. (68) Action of water at 100° C. on the B. Phenyltribrompropionic Acid. 15 m. LEONARD P. KENNICUTT.
5. (95) The action of Basic Hydrate on Chlortribrompropionic Acids. 15 m. C. F. MABERY AND RALPH WILSON.
6. (96) On certain substituted Acrylic and Propionic acids. 25 m.
C. F. MABERY AND F. C. ROBINSON.
7. (97) On the Products of the Distillation of Wood at low temperatures. 25 m. C. F. MABERY.

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SECTION D.—MECHANICAL SCIENCE.

(Will meet in Class Room No. 15, Second Floor, Centre Building.)

Vice-President.—W. P. TROWBRIDGE, of New Haven.

Secretary.—J. BURKITT WEBB, of Ithaca.

Sectional Committee.

W. P. TROWBRIDGE, of New Haven.

J. B. WEBB, of Ithaca.

PAPERS TO BE READ IN SECTION D.—MONDAY.

1. (15) Newly discovered absolute limit to Economic Expansion in the Steam Engine. 10 m. R. H. THURSTON.
2. (180) Experiments to determine the strength of cylinders with dome attached, with specimens. 30 m. SAMUEL MARSDEN.

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SECTION E.—GEOLOGY AND GEOGRAPHY.

(Will meet in Theatre Room in Museum.)

Vice-President.—E. T. COX, of San Francisco.

Secretary.—H. S. WILLIAMS, of Ithaca.

Sectional Committee.

E T. COX, of San Francisco; H. S. WILLIAMS, of Ithaca; C. H. HITCHCOCK, of Hanover; N H. WINCHELL, of Minneapolis; E. T. NELSON, of Delaware.

Nomination Committee.

JOS. W. SPENCER, of Columbia, Mo.

Sub-Committee on Nominations.

P. W. SHEAFER, of Pottsville; ALEX. WINCHELL, of Ann Arbor; WM. LILLY, of Mauch Chunk.

PAPERS TO BE READ IN SECTION E.—MONDAY.

1. (66) Recent Investigations and Paleontological Discoveries in the Wappinger Lime Stone of Dutchess and neighboring counties, New York. 30 m.
WM. B. DWIGHT.

2. (142) Terraces and Beaches about Lake Ontario. 25 m.
JOS. W. SPENCER.

3. (143) Occurrence of Graptolities in the Niagara Formation of Canada. 6 m. JOS. W. SPENCER.

4. (75) Silicified Stumps of South Park, Col. 15 m.
ROBERT B. WARDER.

5. (126) On the Change of relative level of the ocean and uplands on the Eastern coast of North America. 25 m.
GEO. H. COOK.

6. (83) On a Post Tertiary Deposit containing impressions of leaves in Cumberland County, N.J. 5 m.
M. L. BRITTON.

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7. (84) On the Classification and Origin of Joint Structure. 40 m.

W. O. CROSBY.

8. (207) The origin of Joint Cracks. 20 m.

H. F. WALLING.

9. (85) On the Winooski Marble of Vermont, with exhibition of specimens. 10 m.

G. H. PERKINS.

10. (36) The Comparative Stratigraphy of the Crystalline rocks of North Carolina and Canada. 20 m.

ALEXIS A. JULIEN.

11. (87) The Genesis of the Crystalline Iron ores of North Carolina and Northern Michigan. 10 m.

ALEXIS A. JULIEN.

12. (7) The great Terminal Moraine across Pennsylvania. 45 m.

H. CARVILL LEWIS.

13. (88) The Dunyte Beds of North Carolina. 10 m.

ALEXIS A. JULIEN.

14. (89) The Felsyte-tufa of Colorado. 10 m.

ALEXIS A. JULIEN.

15. (106) Note on the exterior markings of bark of Lepidodendron chemungense. 15 m.

E. W. CLAYPOLE.

16. (107) On Amphicoelia cedarvillensis from the Niagara group of Cedarville, Ohio. 10 m.

E. W. CLAYPOLE.

17. (108) Note on the Fauna of the Catskill Red Sandstone. 20. m

E. W. CLAYPOLE.

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SECTION F.—BIOLOGY.

(Will meet in Room No. 2, in Museum.)

Vice-President.—W. H. DALL, of Washington.

Secretary.—WILLIAM OSLER, of Montreal.

Sectional Committee.

W. H. Dall, of Washington; William Osler, of Montreal: J. A. Lintner, of Albany; W. J. Beal, of Lansing; H. F. Bassett, of Waterbury.

Nominating Committee.

Lester F. Ward, of Washington.

Sub-Committee on Nominations.

Thos. Meehan, of Germantown; B. D. Halsted, of New York; T. J. Burrill, of Champaign.

PAPERS TO BE READ IN SECTION F.—MONDAY.

1. (184) A sketch of the History of our knowledge of the Budding of Salpa. 10 m. W. K. BROOKS.
2. (185) Fritz Miller and the Nauplius of Decapods. 5 m. W. K. BROOKS.
3. (16) Achenial Hairs and fibres of Compositæ. 30 m. G. MACLOSKIE.
4. (8) Blastesis tridens; a pear-tree fungus. 10 m. WM. H. SEAMAN.
5. (51) On a recent species of Heteropora from the Strait of Juan de Fuca 5 m. J. F. WHITEAVES.
6. (109) Insects *versus* Flowers in the matter of Fertilization. 15 m E W. CLAYPOLE.
7. (113) On the Gall Mites. 20 m. W. A. BUCKHOUT.
8. (132) A new Sexual character in the pupæ of some Lepidoptera 10 m. J. A. LINTNER.
9. (112) On the position of the Gamopetalae. 15 m.
10. (111) Note on the occurrence of traces of a Northern Flora in South-western Ohio. 15 m. E. W. CLAYPOLE.
11. (211) Progressive growth of Dermoid coat of the Membrana tympani. 10 m. CLARENCE J. BLAKE.
12. (102) The Morphology of Arteries. 40 m. FRANK BAKER.
13. (80) Emulsions of Petroleum and their value as Insecticides. 10 m. C. V. RILEY.
14. (140) The Jessup collection to illustrate American Forestry in the Museum of Natural History, Central Park, New York. 10 m. ALBERT S. BICKMORE.
15. (134) The Hibernation of Aletia xylina in the U. S., a settled fact. 5 m. C. V. RILEY.
16. (159) Observations on the Elm-leaf Beetle (Galeruca xanthomelæna) 10 m. G. MACLOSKIE.

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SECTION G.—HISTOLOGY AND MICROSCOPY.

(Will meet in Room No. 3, in Museum.)

Vice-President.—A. H. TUTTLE, of Columbus.

Secretary.—ROBERT BROWN, Jr., of New Haven.

Sectional Committee.

A. H. Tuttle, of Columbus; Robt. Brown, Jr., of New Haven; A B. Hervey, of Taunton; Louis Elsberg, of New York; Romyn Hitchcock, of New York.

Nominating Committee.

J. D. Hyatt, of Morrisania.

Sub. Committee on Nominations.

A. H. Tuttle, of Columbus; Robt. Brown, Jr., of New Haven; G. O. Mitchell, of Hanover; T. J. Burrill, of Champaign; C. C. Merriman, of Rochester.

PAPERS TO BE READ IN SECTION G.—MONDAY.

1. (173) A study of the problem of fine rulings with reference to the limit of naked eye visibility and microscopic resolution. 24 m. W. A. ROGERS.
2. (179) On a new form of dry mounting. 3 m. W. A. ROGERS.
3. (76) The House Fly considered in connection with the distribution of infectious and contagious poisons. 15 m. THOMAS TAYLOR.
4. (77) A new economic Freezing Microtome for section-cutting, with new mechanical devices. 15 m. THOMAS TAYLOR.
5. (146) On the Epidermis of Marsipobranchs. 15 m. A. H. TUTTLE.
6. (150) Notes on some of the peculiarities incident to the Diseases of Fruits. 15 m. D. P. PENHALLOW.
7. (158) Notes on the Present Status of Sanitary Inspection, with special reference to the Examination of Water and Air. 10 m. ROMYN HITCHCOCK.

The invitation extended to Section G. by the Montreal Microscopic Club, to a practical demonstration of various modes of Microscopic Illumination, to be given this evening, at the Natural History Society, corner of University and Cathcart Street, from 8 to 10 P.M., has been accepted by the Section.

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SECTION H.—ANTHROPOLOGY.

(Will meet in the Molson Hall, Centre Building.)

Vice-President—ALEXANDER WINCHELL, of Ann Arbor, Mich

Secretary.—OTIS T. MASON, of Washington.

Sectional Committee.

Otis T. Mason, of Washington; A. S. Bickmore, of New York; Garrick Mallery, of Washington; N. S. Townshend, of Columbus.

Nomination Committee.

Horatio Hale, of Clinton.

Sub-Committee of Nomination.

Otis T. Mason, of Washington; J. Owen Dorsey, of Washington; Geo. H. Perkins, of Burlington; Joseph Anderson, of Waterbury.

PAPERS TO BE READ IN SECTION H.—MONDAY.

Conclusion of Miss Fletcher's paper on the Sun Dance.

1. (202) On some hitherto unnoted affinities between ancient customs in America and on the other continents. J. W. PHENE.
2. (59) Indian Migrations, as evidenced by Language. 45 m. HORATIO HALE.
3. (61) The contents of eighty-four stone graves at Brentwood, Tenn. 15 m. F. W. PUTNAM.
4. (29) Discovery of the remains of a log-building belonging to the stone-grave period in Tennessee. 10 m. F. W. PUTNAM.
5. (60) Account of three Mounds explored in Ohio and Tennessee. 15 m. F. W. PUTNAM.
6. (115) On the Comparative Phonology of Four Siouan Languages. 15. J. OWEN DORSEY.
7. (116) The Kinship System and Marriage Laws of the Dhegiha. 10 m. J. OWEN DORSEY.
8. (71) Atlas and the Atlantes: 1. The Atlantes. 2. The Guanches. 30 m. R. G. HALIBURTON.
9. (182) Who made the native copper implements? 15 m. P. R. HOY.
10. (183) Who built the mounds? 30 m. P. R. HOY.
11. (28) On Copper implements and ornaments from North America. 15 m. F. W. PUTNAM.

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SECTION I.—ECONOMIC SCIENCE AND STATISTICS.

(Will meet in French Class Room, Second Floor, Centre Building.)

Vice-President.—E. B. ELLIOTT, of Washington.

Secretary.—F. B. HOUGH, of Lowville.

Sectional Committee.

E. B. ELLIOTT, of Washington; F. B. HOUGH, of Lowville: JOSEPH CUMMINGS, Evanston; JOHN EATON, of Washington.

PAPERS TO BE READ IN SECTION I.—MONDAY.

1. (36) Statistics in Agriculture. 15 m. J. R. DODGE.
2. (532) Exhibition of some statistics of College men. 10 m. CHAS. W. SMILEY.
3. (212) References to some of the economic and scientific principles in tree-growth and tree-destruction. 25 m. JAMES HYATT.
4. (219) Standard Time for North America. 10 m. WINSLOW UPTON.
5. (201) On certain Government Securities. 15 m. E. B. ELLIOTT
6. (227) Experimental plantation of Eucalyptus near Rome. 20 m. FRANKLIN B. HOUGH.
7. (214) On methods of obtaining registration of vital and other Statistics of the Omahas and Cognate tribes of Indians. 10 m. J. OWEN DORSEY.
8. (256) Suggestions on Electrical Units. 3 m. E. B. ELLIOTT.

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TITLES OF PAPERS ENTERED.

(*Continued from page* 77.)

222. C. Transmission of gases through liquids of different densities. 10 m. C. G. WHEELER and F. MENZEL.
223. F. Some observations on the action of frost upon leaf-cells. 1 m. C. E. BESSEY.
224. E. On a new microchemical method of determining the felspars in rocks.
225. H. A few deductions from Dictionary of the Tuscarora dialect. 10 m. Mrs. E. A. SMITH.
226. A. A method of eliminating the personal equation in transit observations. 15 m. J. BURKITT WEBB.
227. I. Experimental plantation of Eucalyptus near Rome. 20 m. FRANKLIN B. HOUGH.
228. C. Transmission of gases through liquids of different densities. 10 m. C. G. WHEELER and F. MENZEL.
229. B. An instrument for readily producing low temperatures. 10 m. HENRY CARMICHAEL.
230. C. The solution and late crystallization of gold heated with chlorohydric acid in a sealed tube. 5 m. HENRY CARMICHAEL.
231. A. Scheme for observing the great Eclipse of May, 1883. 5 m. CHARLES H. ROCKWELL.
532. I. Exhibition of some statistics of College men. 10 m. CHARLES W. SMILEY.
233. F. The primary divisions of the Ungulata 20 m. EDWARD D. COPE
234 F. The Fauna of the Puerco Eocene. 30 m. EDWARD D. COPE
235. G. A Filtering Wash-bottle especially adapted to the use of the Histologist. 5 m. C. E. HANAMAN.
236. C. Remarks on the application of the Iridium knife-edge to analytical Balances. 5 m. WILLIAM DUDLEY.
237. C Fire-damp explosions.
238. B. Sound an electrical phenomenon. 10 m. H. RAYMOND ROGERS.
239. F. Remarks on the Turbellaria. 10 m. WYLLIS A. SILLIMAN.
240. B. On some phenomena of diffraction due to the shape of the source of light. 10 m. BROWN AYRES.
241. A. Bell Attachment for Telescope circles (with illustration.) 2 m. HENRY M. PARKHURST.

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242. A. New method of determining the distance of the Sun, by the direction of the dark outline on the face of the moon. 30 m. SAMUEL MARSDEN.
243. H. Influence of climate of Canada on Europeans. 15 m. WM. H. HINGSTON.
244. C. Some Tea Analyses. 5 m. WM. H. ELLIS.
245. B. On the "Rotational Co-efficient" in Gold, Iron, etc. 20 m. EDWIN H. HALL.
246. F. On an Egg parasite of the currant saw-fly, Nematus ventricosus. 12 m. J. A. LINTNER.
247. H. A "find" of chipped stone articles on the Pacific Coast and Exhibition of the Specimen. 5 m. H. N. RUST.
248. H. Remarks upon the Davenport Tablet. 10 m. H. N. RUST.
249. F. Classification of organisms. 10 m. LESTER F. WARD.
250 C. On the association of crystals of Quartz and Calcite in parallel position. 10 m. R. B. HARE.
251 C. On the constitution of Benzole. 20 m. L. W. ANDREWS.
252. F. Development of Cilia in the planula of Clara leptostyla. 3 m. J. H. PILLSBURG.
253. B. The Influence of Harmonies on the Timbre of sound. RUDOLPH KOENIG.
254. I. Population Statistics of the Cherokees. 10 m. E. B. ELLIOTT.
255. I. Some facts relative to the United States Census of 1880. 20 m. CALVIN S. MIXTER.
256. I. Suggestions on Electrical Units. 3 m. E. B. ELLIOTT.

LIST CLOSED.

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MEMBERS ELECTED.

AUGUST 23rd.

1 Col. James W. Abert, Newport, Ky.
2 U. E. Archambault, Montreal.
3 Rev. Wm. D. Armstrong, Ottawa, O.
4 Miss Mary Austin, Milton, Mass.
5 Frank Baker, M. D., 366 C. St. Washington, D. C.
6 Prof. Philip S. Baker, Ashbury University, Greencastle, Ind.
7 Miss Mary A. Baldwin, Newark, N. J.
8 H. Ballard, Principal, Lenox Academy, Lenox, Mass.
9 Charles H. Banes, Philadelphia, Pa.
10 Martha M. Barker, Lowell, Mass.
11 Henry Barnard, Hartford, Conn.
12 F. Foster Bateman, Montreal.
13 Pierre Janvier Ubalde Baudry, Beauharnois, P. Q.
14 Delos W. Beadle, St. Catharines, Ont.
15 Thomas Beall, Lindsay, Ont.
16 J. Alphonse U. Beaudry, C. E., Montreal, P. Q.
17 Alexander Melville Bell, Georgetown, D. C.
18 Chichester A. Bell, Washington, D.C.
19 Mrs. Albert S. Bickmore, New York.
20 George John Bowles, Montreal.
21 Milton H. Brissitte, Montreal.
22 Prof. C. J. Brown, Chamberlain Institute, Randolph, N.Y.
23 Prof. William H. Burr, Troy, N.Y.
24. Lt.-Comdr. Albert G. Caldwell, Torpedo Station, Newport, R.I.
25 H. L. Cargill, Montreal.
26 Charles Carpmael, Director of Magnetic Observatory, Toronto, Ont.
27 John Healey Childe, Boston, Mass.
28 Prof. John Mason Clarke, Smith College, Northampton, Mass.
29 Miss Cornelia M. Clapp, South Hadley, Mass.
30 Amory Coffin, Phœnixville, Pa.
31 Miss Emma Oberin Conro, Keesville, N.Y.
32 Dr. B. E. Cotting, Roxbury, Mass.
33 Francis William Crosby, Washington, D.C.
34 Hon. Rodney R. Crowley, Randolph, N.Y.
35 Miss Elizabeth Curtis, Boston, Mass.
36 Abijah Curtiss, Yonkers, New York.
37 Peter C. Dempsey, Trenton, Ont.
38 Wm. H. Dennis, Assist. U. S. Coast and Geodetic Survey, Washington, D.C.
39 John M. Denton, London, Ontario.
40 J. Richards Dodge, Dept. Agriculture Washington, D.C.
41 Rev. James Owen Dorsey, Bureau of Ethnology, Washington, D.C.
42 Andrew E. Douglas, New York.
43 Walter Angus Dun, M. D., London, England.
44 Richard J. Dunglison, M. D., Philadelphia, Penn.
45 Robert G. Eccles, M.D., Brooklyn, N.Y.
46 President J. T. Edwards, Chamberlain Institute, Randolph, N.Y.
47 William Cole Esty, Amherst College, Amherst, Mass.
48 Frank H. Fairfield, Amherst, Mass.
49 A. G. Fenwick, M.D., London, Ont.
50 Bernhard E. Fernow, Slatington, Penn.
51 James Ferrier, Jr., Montreal.
52 Walter F. Ferrier, Montreal.
53 Sanford Fleming, Chancellor of the Queen's University. Ottawa, Ont.
54 James Fletcher, Library of Parliament, Ottawa, Ontario.
55 Wm. W. Folwell, Minneapolis, Minn.
56 Cyrus G. Force, Jr., Cleveland, Ohio.
57 Rev. T. W. Fyles, Cowansville, P.Q.
58 Benjamin D. Gilbert, Utica, N.Y.
59 H. D. Garrison, Chicago, Ill.
60 Stephen Samuel Haight, New York, N.Y.
61 Miss Mary Hale, Roxbury, Mass.
62 R. G. Haliburton, Ottawa, Ont.
63 Lyman B. Hall, Haverford College, Penn.
64 Albert P. Hallock, New York, N.Y.
65 Henry Harding, Salem, Mass.
66 Miss A. Maria Harmon, Ottawa, Ont.
67 Dr. P. L. Hatch, Minneapolis, Minn.
68 Henry Hemming, Finance Department. Quebec.
69 N. H. Hemiup, Minneapolis, Minn.
70 F. H. Herrick, Burlington, Vermont.
71 Charles N. Hewitt, Minneapolis, Minn.
72 Prof. Lewis E. Hicks, Denison University, Granville, Ohio.
73 John S. Hicks, Roslyn, N.Y.
74 Joseph Lawrence Hills, South Boston, Mass.
75 Miss Mary H. Hinckley, Milton, Mass.
76 Arthur Hollick, New Brighton, N.Y.
77 Miss Rose Hollingsworth, Milton, Mass.
78 Joseph Holt, M.D., New Orleans, La.
79 Geo. Henry Hudson, Plattsburgh, N.Y.
80 Ray Greene Huling, Fitchburg, Mass.

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81 Charles W. Hutchinson, Utica, N.Y.
82 George Iles, Montreal.
83 John G. Jack, Chateauguay Basin, Que.
84 Mrs. Isabella James, Cambridge, Mass.
85 Louis C. Jones, Hartford, Conn.
86 William Schuyler Johnson, Washington, D.C.
87 Prof. James Kirkland, Toronto, Ontario.
88 Dr. Isidore Kitzie, Cincinnati, Ohio.
89 Miss Elizabeth G. Knight, New York, N. Y.
90 J. C. Lathrop, Bridgeport, Conn.
91 L. A. Huguet-Latour, Montreal.
92 Prof. George Lawson, Dalhousie College, Halifax, Nova Scotia.
93 Prof. Geo. Dudley Lawson, Cambridge, Mass.
94 Edward W. Lee, M.D., Randolph, N. Y.
95 Joseph Libbey, Georgetown, D. C.
96 Mrs. Rachel Lloyd, Louisville, Ky.
97 Horatio Loomis, Burlington Vt.
98 Prof. Thomas R. Lounsbury, Yale College, New Haven, Conn.
99 Joseph L'Etoile, Dept. Interior, Quebec.
100 John W. Lovell, New York, N. Y.
101 Albert Lufkin, Newton, Iowa.
102 Prof. Louis L. McInnis, College Station, Texas.
103 W. H. Manning, Reading, Mass.
194 Prof. Wm. J. Martin, Davidson College, N. C.
105 Prof. Samuel T. Maynard, Mass. Agriculture College, Amherst, Mass.
106 W. Hamilton Merritt, Toronto, Ont.
107 Capt. James H. Merryman, U.S.R.M., New York.
108 President James Mills, Ontario, Agricultural College, Guelph, Ontario.
109 T. Wesley Mills, Montreal.
110 William Hamilton Mills, Hamilton, Ont.
111 Mrs. Mary E. Morgan, Rochester, N.Y.
112 Charles J. Morse, Youngstown, Ohio.
113 Capt. John H. Mortimer.
114 William Muir, Montreal,
115 John P. Munn, M.D., New York, N.Y.
116 Henry M. Newington, St. Louis, Mo.
117 Stephen Prendergast, Phœnix, N. Y.
118 Arthur Perkins, Hartford, Conn.
119 George Phelps, Nashua, N. H.
120 Dr. Cyrus Newlin Pierce, Media, Penn.
121 Louis H. Pignold, Montreal.
122 Prof. Johnson T. Platt, Yale College, New Haven, Conn.
123 Frederick B. Power, Ph. D., Philadeldelphia, Pa.
124 Prof. George D. Purinton, University of Des Moines, Des Moines, Iowa.
125 John Stephen Renninger, M. D., Minneota, Minnesota.
126 Edgar Richards, Washington, D. C.
127 Bates S. Rideout, Lewiston, Maine.
128 Mrs. Susan Riley, Mobile, Alabama.
129 Thomas S. Roberts, Minneapolis, Maine.
130 Thomas P. N. Rogers, Burlington, Vt.
131 Rev. James Roy, Montreal.
132 Prof. Alvah Horton Sabine, University of Vermont, Burlington, Vermont.
133 Mary Jane Safford, M.D., Boston, Mass.
134 Daniel Elmer Salmon, Asheville, N. C.
135 J. W. Sanborn, Hanover, N. H.
136 George H. Seyms, Hartford, Conn.
137 Chas. S. Shultz, Hoboken, New Jersey.
138 Dr. Hrbt. E. Smith, New Haven, Conn.
139 Miss Marian M. Smead, Batavia, N. Y.
140 Marcell N. Smith, Boston, Mass.
141 Thomas H. Smith, Chicago, Ill.
142 Miss Augusta J. Solomons, Sumter, S.C.
143 Miss Kate C. Solomons, Sumter, S.C.
144 Miss Maude Cohen Solomons, Sumter, S. C.
145 Jas. H. Stibbins, Jr., New York, N.Y.
146 Horace Ed. Stockbridge, Amherst, Mass.
147 Levi Stockbridge, Amherst, Mass.
148 Lincoln R. Stone, M.D., Newton, Mass.
149 Jacob H. Studer, Columbus, Ohio.
150 Frederick William Taylor, Smithsonian Institution, Washington, D.C.
151 J. E. Thompson, Spalding, Mich.
152 Herbert G. Torrey, New York, N.Y.
153 C. W. Volney, Mott Haven, N.Y.
154 Prof. Carl Warnecke, Montreal.
155 Joseph W. Warren, Harvard Medical School, Boston, Mass.
156 John Hosea Washburn, Bridgewater, Mass.
157 Miss C. A. Watson, Salem, Mass.
158 Prof. J. Burkitt Webb, Cornell University, Ithaca, N.Y.
159 Hon. Jos. E. Weeden, Randolph, N.Y.
160 Arthur W. West, Salem, Mass.
161 Alice Walker Wheildon, Concord, Mass.
162 J. F. Whiteaves, Geological Survey, Ottawa, Ontario.
163 F. Cope Whitehouse, New York, N.Y.
164 Prof. Sarah F. Whiting, Wellesley College, Wellesley, Mass.
165 Francis Augustus Wilber, New Brunswick, N.J.
166 J. Francis Williams, Salem, N.Y.
167 Janet Webster Williams, Newton, Lower Falls, Mass.
168 Miss Hannah S. Wingate, Brooklyn, N.Y.
169 Thomas Fanning Wood, M.D., Wilmington, N.C.

169, in addition to the Members of the Local Committee.

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AUGUST 24th.

170 L. W. Andrews, Springfield, Mass.
171 Oscar Atwood, Rutland, Vermont.
172 Prof. Brown Ayres, University of Louisiana, New Orleans.
173 Thomas D. Bell, Montreal.
174 Abraham D. Balen, Plainfield, N. J.
175 Lieut. Commander Royal B. Bradford, Torpedo Station, Newport, R. I.
176 Arthur Brown, Oakland, California.
177 Fred Gardip Brown, Rutland, Vt.
178 John Bull, Washington.
179 Jeffrey Hale Burland, Montreal.
180 L'Abbe Joseph Chabert, Montreal.
181 John S. Clark, Boston.
182 Richard T. Colburn, Elizabeth, N. J.
183 J. J. Davis, M.D., Racine, Wisconsin.
184 L. M. Dayton, Cincinnati.
185 Edward Dummer, Boston.
186 Henry Lee Farr, Rutland, Vt.
187 Mrs. Marion T. Fortescue, New York.
188 William L. Garrett, New York.
189 Thomas W. Gleeson, Boston.
190 Dr. R. P. Greenleaf, Henry Clay P. O., Delaware.
191 Thomas A. Greene, Milwaukee, Wis.
192 Rev. Colborne Heine, Montreal.
193 Clarence L. Herrick, Minneapolis, Min.
194 L. M. Holstein, Belvidere, N.J.
195 Henry F. Homes, Albany, N. Y.
196 Allen B. Howe, New Haven, Conn.
197 Edward Hungerford, Burlington, Vt.
198 Joseph P. Iddings, U. S. Geological Survey, Orange, N. J.
199 Hiram U. King, Stamford, Conn.
200 Dr. Henry S. Leffernan, Philadelphia.
201 W. H. Lynch, Danville, P.Q.
202 Joseph Russel Marble, Worcester, Mass
203 James Millan McLarty, Boston.
204 MacGregor J. Mitcheson, Philadelphia.
205 Alvin H. Moore, Magog, P.Q.
206 Miss Anna Morton, Chicago, Ill.
207 Oliver D. Norton, M.D., Cincinnati.
208 Prof. D. B. Purinton, W. Va. State University, Morgantown, W. Va.
209 Prof. C. H. Pettee, New Hampshire Coll. Agriculture, Hanover, N.H.
210 Dr. A. M. Phelps, Chateaugay, N.Y.
211 Alexander Proudfoot, M.D., Montreal.
212 Robert A. Ramsay, Montreal.
213 Dr. Sampson P. Robins, Hochelaga, P.Q.
214 Jeremiah W. Sanborn, Columbia, Mo.
215 Prof. M. P. Scott, Blacksburg, Virginia.
216 Henry M. Seeley, Middleburg, Vt.
217 Capt. Thomas A. Selfridge, U. S. Navy Torpedo Station, Newport, R. I.
218 William W. Share, Brooklyn, N. Y.
219 Wyllis Augustus Silliman, Clarkson, N.Y.
220 Mrs. A. B. Smith, St. Albans, Vt.
221 Herbert Eugene Smith, Hartford, Conn.
222 Mrs. Ellen M. P. Stone, Providence, R.I.
223 Henry Stone, New York.
224 Rev. James A. B. Stone, Detroit, Mich.
225 Prof. William Strieby, Colorado College, Colorado Springs.
226 William A. Stiles, Deckertown, N. J.
227 Joseph Townsend, Durham, Ontario.
228 James Troop, Lansing, Mich.
229 Mrs. Charlotte Fowler Wells, New York
230 John Wanless, M.D., Montreal.

AUGUST, 25th.

231 J. C. Aeling, Albert Lea, Minnesota.
232 Capt. Robert Chamblet Adams, Montreal.
233 Joseph Bemrose, Montreal.
234 C. H. DuBois, Minneapolis.
235 Miss Anne Brown, Cincinnati.
236 Jeffrey Hale Burland, Montreal.
237 Mrs. W. H. Chapman, New York.
238 Mrs. Marine J. Chase, Philadelphia.
239 Frederick Cole, Montreal.
240 Dr. J. A. Crevier, Montreal.
241 Surgeon Dwight Dicksonson, U.S.N., Washington.
242 Mrs. A. S. Diven, Elmira, N. Y.
243 Ignatius Donnelly, Litchfield, Min.
244 Capt. John M. Dow, New York.
245 Dr. Chas. R. Dryer, Fort Wayne, Ind.
246 Dr. Louis Lane Dunbar, San Francisco, Cal.
247 Prof. Gilbert P. Girdwood, McGill College, Montreal.
248 Horace Hatch, M.D., Washington.
249 C. L. Herrick, Minneapolis, Minn.
250 Miss Susan Hetzel, Clifton, Va.
251 Sarah E. Hibbard, Montreal.
252 Silas W. Holman, Boston, Mass.
253 Major Jed. Hotchkiss, Staunton, Va.
254 Prof. David S. Jordan, Indiana State University, Bloomington, Indiana.
255 David S. Kellicott, Buffalo, N. Y.
256 John Kennedy, Montreal.
257 Wm. H. Lennon, Brookport, N. Y.
258 Dr. G. W. Major, Montreal.
259 J. R. Mendenhall, Minneapolis, Minn.

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260 Dr. H. L. Morse, Boston.
261 Henry Mott, Montreal.
262 Edward Murphy, Montreal.
263 A. B. Nettleton, Minneapolis.
264 Oliver D. Norton, M.D., Cincinnati.
265 Frederick A. Ober, Beverly, Mass.
266 Prof. Marshal Oliver, U. S. Navy, Annapolis, Md.
267 Joseph B. F. Osgood, Salem, Mass.
268 Frank Allen Owen, Burlington, Vt.
269 William Reed, Hartford City, Ind.
270 W. G. Sargent, Sargentville, Maine.
271 Prof. J. O. Stillson, Evansville, Ind.
272 Rev. E. R. Stinson, Toronto.
273 A. P. Southwick, Norfolk, Va.
274 Carlisle Terry, M.D., Columbus, Ga.
275 Mrs. Joseph Tiffin, jr., Montreal.
276 Edward Royal Tyler, Washington.
277 Frederick C. Valentine, New York.
278 Hulbert H. Warner, Rochester, N. Y.
279 Dr. Charles Warren, Washington.
280 Ralph C. Woolworth, San Francisco.
281 Mrs. Ralph C. Woolworth, San Francisco.
282 Eliza Wright, Boston.

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REGISTER OF ARRIVALS.

AUGUST 23, 1882.

No	Name.	Permanent Residence.	Residence during the Meeting.
1	G. F. Barker	Philadelphia, Pa	130 Mackay Street.
2	Mrs. Barker	do	do
3	Miss Barker	do	do
4	R. G. Huling	Pitchburg, Mass	do
5	Mrs. Huling	do	do
6	S. B. Paine	Fall River, Mass	do
7	P. V. Williams	Watertown, N. Y	St. Lawrence Hall.
8	S. M. Hedges	Boston, Mass	1431 St. Catherine St.
9	Mrs. Hedges	do	do
10	Miss E. M. Hedges	do	do
11	D. W. Beadle	St. Catharines, Ont	168 Mance Street.
12	Mrs. Beadle	do	do
13	Miss S. E. Beadle	do	do
14	W. D. Boardman	Roxbury, Mass	1431 St. Catherine St.
15	Mrs. Boardman	do	do
16	Miss M. H. Hinckley	Milton, Mass	King Street
17	Miss M. Austin	do	do
18	Miss R. Hollingsworth	do	22 Cathcart Street.
19	Mrs. P. R. Hollingsworth	do	do
20	J. W. Dawson	Montreal	McGill College.
21	N. H. Winchell	Minneapolis, Minn	Windsor Hotel.
22	E. T. Cox	San Francisco, Cal	do
23	W. F. Ferrier	Montreal	144 Metcalfe Street.
24	J. Ferrier, jr	do	do
25	Miss C. A. Watson	Salem, Mass	Windsor Annex.
26	Miss Sarah E. Hunt	do	do
27	Miss A. L. Page	do	do
28	Mrs. C. H. Dall	Washington, D. C	107 Union Avenue.
29	A. E. Foote	Philadelphia, Pa	1531 St. Catherine St.
30	G. J. Brush	New Haven, Conn	Windsor Hotel.
31	Mrs. Brush	do	do
32	C. W. Smiley	Washington, D.C	———
33	W. H. Stephens	Louisville, N. Y	St. Lawrence Hall.
34	H. S. Williams	Ithaca, N. Y	273 Bleury Street.
35	John Hagemann	Cincinnati, Ohio	Windsor Hotel.
36	J. F. James	do	824 Ontario Street.
37	Miss E. W. James	do	do
38	Miss A. James	do	do
39	A. E. Highways	do	903 Sherbrooke Street.
40	H. C. Bolton	Hartford, Conn	Windsor Hotel.
41	Mrs. Jackson Bolton	do	do
42	C. H. Rockwell	Tarrytown, N.Y	211 Peel Street.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
43	P. Mohr	Cincinnati, Ohio	28 St. Denis Street.
44	Miss E. Mohr	do	do
45	Miss M. Mohr	do	do
46	Joseph Szabo	Buda-Pesth, Hungary	256 University Street.
47	John Fallon	Lawrence, Mass	40 Osborne Street.
48	H. S. Jewett	Dayton, Ohio	62 Cathedral Street.
49	T. Sterry Hunt	Montreal	256 University Street.
50	J. L'Etoile	Ottawa	Eagle Hotel.
51	W. W. Tracey	Detroit, Mich	American House.
52	D. P. Penhallow	Mountainville, N. Y	58 Drummond Street.
53	Mrs. J. James	Cambridge, Mass	do
54	Miss F. B. James	do	do
55	Mrs. Dawson	Montreal	McGill College.
56	Miss Wilson	Toronto	
57	Miss Dawson	Montreal	do
58	Miss C. Crow		do
59	T. J. Burrill	Champaign, Ill	———
60	F. W. Putnam	Cambridge, Mass	Windsor Hotel.
61	Miss Alice E. Putnam	do	Windsor Annex.
62	W. E. Archambault	Montreal	846 Ontario Street.
63	Daniel Draper	New York, N.Y	1325 St. Catherine St.
94	E. H. Dixon	Hastings-on-Hudson	do
65	J. M. Edwards	Marlboro, Mass	273 Bleury Street.
66	Mrs. Edwards	do	do
67	Rev. James Roy	Montreal	1464 St. Catherine St.
68	Mrs. Roy	do	do
69	Miss Roy	do	do
70	Miss J. Roy	do	do
71	E. A. Cook	Bristol, Eng	31 McTavish Street.
72	Mrs. Z. D. Butcher	Washington, D. C	———
73	Miss R. Freeland	do	———
74	James Hyatt	Stanfordville, N.Y	———
75	D. W. Kowalesky	Moscow, Russia	295 Upper University St.
76	Alfred Springer	Cincinnati, Ohio	758 Dorchester Street.
77	Miss Cora Elsas	do	do
78	O. T. Mason	Washington, D. C	Diocesan College.
79	Mrs. Martha J. Lamb	New York City	101 Metcalfe Street.
80	H. B. Nason	Troy, N.Y	Windsor Hotel.
81	Mrs. Nason	do	do
82	J. F. Williams	Salem, N. Y	do
83	C. V. Riley	Washington, D. C	Windsor Annex.
84	Miss N. Lafargue	do	do
85	A. W. Wheildon	Concord, Mass	———
86	J. B. Edwards	Montreal	55 Radegonde Street.
87	J. A. W. Beaudry	do	635 Ontario Street.
88	L. A. H. Latour	do	36 McGill College Avenue
89	E. L. Sturtevant	Geneva, N. Y	Windsor Hotel.
90	James Mills	Guelph	1465 St. Catherine St.
91	Mrs. Mills	do	do
92	John Thorburn	Ottawa	St. Lawrence Hall.
93	Thomas Kirkland	Toronto	McGill College.
94	Geo. H. Cook	New Brunswick, N. J	144 Metcalfe Street.
95	Miss A. B. Cook	do	do
96	Miss E. W. Cook	do	do
97	Mrs. A. B. Cook	Holmdel, N. J	38 Victoria Street.
98	J. E. Cook	Hanover, N. J	do

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No.	*Name.*	*Permanent Residence*	*Residence during the Meeting.*
99	W. H. H. Russell	St. Louis, Mo	Windsor Hotel.
100	M. H. Brissette	Montreal, P. Q	Montreal.
101	Charlotte S. Tower	do	———
102	Mrs. J. Ferrier	Lexington, Mass	144 Metcalfe Street.
103	J. O. Dorsey	Washington, D. C	108 Stanley Street.
104	Miss M. Bowles	Columbia, Tenn	903 Sherbrooke Street.
105	Rev. Dr. Houghton	Dublin, Ireland	Windsor Hotel.
106	E. B. Elliott	Washington, D. C	———
107	A. H. Ormsleys	Dublin	Windsor Hotel.
108	Miss E. L. Hamlin	New York, N. Y	35 Tupper Street.
109	H. A. Ward	Rochester, N. Y	47 McGill College Avenue
110	W. L. Dudley	Cincinnati, Ohio	Windsor Hotel.
111	B. D. Gilbert	Utica, N. Y	do
112	Mrs. Charlotte F. Wells	New York, N. Y	27 Windsor Street.
113	Wm. Wallace	Ausonia, Ct	Windsor Hotel.
114	W. S. McCays	Dublin, Ireland	do
115	James Hall	Albany, N. Y	600 Sherbrooke Street.
116	L. F. Ward	Washington, D. C	1394 St. Catherine St.
117	Mrs. Ward	do	do
118	Proff. C. Hertzberg	Brooklyn, L. I	———
119	C. G. Wheeler	Chicago, Ill	Windsor Hotel.
120	Mrs. Wheeler	do	do
121	Wm. Muir	Montreal	1395 St. Catherine St.
122	Mrs. Muir	do	do
123	S. C Caldwell	Ithaca, N. Y	Diocesan College.
124	F. C. Caldwell	do	do
125	John Rae	Kensington, Lndn	290 Mountain Street.
126	H. E. Olbord	Mountainville, N. Y	(31) Windsor Hotel.
127	E. E. Howell	Rochester, N. Y	47 McGill College Avenue
128	F. W. Staebner	do	47 McGill College Avenue
129	Y. P. Bassnett	Jacksonville, Fla	6 Victoria Street.
130	Mrs. Y. Bassnett	do	do
131	Miss H. H. Mays	Georgia, Fla	do
132	Miss M. C. Solomans	Sumter, S. C	903 Sherbrooke Street.
133	Miss Kate Solomans	do	do
134	Miss A. Solomans	do	do
135	J. F. Whiteaves	Ottawa, Ont	St. Lawrence Hall.
136	N. S. Townshead	Columbus, Ohio	New York House.
137	W. R. Lagenby	do	do
138	J. R. Eastman	Washington, D. C	2 and 3 Diocesan College
139	Mrs. J. R. Eastman	do	do
140	S. W. Burnham	Chicago, Ill	City Hotel.
141	H. D. Garrison	do	Albion Hotel.
142	Rev. T. Fyle	Cowansville, P. Q	Diocesan College.
143	A. J. Burnham	Chicago, Ill	City Hotel.
144	John Michels	New York, N. Y	893 Sherbrooke Street.
145	H. Lord	do	903 Sherbrooke Street.
146	Mrs. E. Smith	Jersey City	Windsor Hotel.
147	Chas. Carpmael	Toronto, Ont	———
148	W. H. Dall	Washington, D. C	Diocesan College.
149	Wm. Saunders	London, Ont	Windsor Annex.
150	J. M. Denton	do	———
151	Rev. M. P. Costin	Fordham, N. Y	St. Mary's College, Bleury Street
152	W. P. Trowbridge	New Haven, Ct	Theology College.
153	Mary A. Baldwin	Newark, N. J	101 Metcalfe Street.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
154	Alice Riker	Newark, N. J.	101 Metcalfe street.
155	Chas. Wedl	Vienna	Richelieu Hotel.
156	F. H. Lond	Colorado Springs	Albion Hotel.
157	Mrs. Lond	do	do
158	Mrs. E. M. Wileys	do	do
159	Miss E. N. Hunt	Montreal, P. Q.	256 University Street.
160	Miss M. Hunt	do	do
161	Robt. C. Kedzie	Lansing, Mich.	Richelieu Hotel.
162	W. E. Cutler	Worcester, Mass.	Windsor Hotel.
163	S. W. Johnston	Washington, D. C	58 Drummond Street.
164	Miss. E. B. Johnston	do	do
165	Rev. Dr. Shackelford	New York, N. Y.	21 McGill College Avenue
166	Miss Shackelford	do	do
167	Geo. R. Shackelford	do	do
168	Eliz. P. Shackelford	do	do
169	A. S. Bickmore	do	Windsor Hotel.
170	Mrs. Bickmore	do	do
171	A. E. Douglass	do	do
172	A. S. Gatschet	Washington, D. C	216 Bleury Street.
173	Dr. Fitzgerald	Dublin	do
174	W. H. Hingston	Montreal, P. Q	37 Union Avenue.
175	Mrs. J. Kirkland		McGill College Obs.
176	S. H. Brackett	St. Johnsbury, Vt	23 Shuter street
177	Alex Graham Bell	Washington, D. C	Windsor Hotel
178	Arthur W. West	Salem, Mass	1596 St. Catherine street
179	T. C. Mendenhall	Columbus, Ohio	Windsor Hotel
180	Mrs. Mendenhall	do	do
181	Byron D. Halsted	Broadway, N. Y	American House
182	J. Henry Comstock	Ithaca, N. Y.	1462 St. Catherine street
183	Mrs. Henry Comstock	do	do
184	Miss H. Willets	do	do
185	Miss E. Halbrooke	Alto, N. Y	do
186	P. W. Clarke	Cincinnati, Ohio	Windsor Hotel
187	Miss Mary Hale	Roxbury, Mass	———
188	C. P. Gardner	Rochester, N. Y	49 Mance street
189	Mrs. C. P. Gardner	do	do
190	D. A. Bassett	Crawfordsville, Ind	142½ St. Denis street
191	S. C. Heighway	Cincinnati, Ohio	———
192	John Heywood	Westerville, Ohio,	Richelieu Hotel
193	W. A. Conklin	New York, N. Y	Windsor Hotel
194	W. Van Valkenburgh	do	do
195	A. H. Worthen	Springfield, Ill	———
196	Mrs. A. H. Worthen	do	Windsor Hotel
197	E. R. Chadbourn	Lewiston, Me	107 Bleury street
198	W. H. Mills	Hamilton, Ont	Richelieu Hotel
199	Mrs. W. H. Mills	do	do
200	Winslow Upton	Washington, D. C	80 University street
201	Mrs. Winslow Upton	do	do
202	Dr. Frank Caldwell	Cincinnati, Ohio	———
203	R. S. Rideout	Lewiston, Me	207 Bleury street
204	J. W. Spencer	Columbia, Mo	Cor. Sherbrooke and City Councillor streets
205	Miss Spencer	do	do
206	Mrs. A. Warren	do	do
207	J. J. Bell	Exeter, N. H	Windsor Hotel
208	Mrs. J. J. Bell	do do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
209	C. Schaeffer	Philadelphia, Pa	Windsor Hotel
210	J. D. McGuire	Elliott City, Md	42 Victoria street
211	Mrs. J. D. McGuire	do do	do
212	F. C. Seagrave	Providence, R.I	Windsor Hotel
213	Mrs. S. A. Seagrave	do do	do
214	N. D. C. Hodges	Salem, Mass	7 Burnside Place
215	J. J. May	Boston, Mass	J.H.R. Molson, Piedmo 1
216	Mrs. J. J. May	do	do
217	Miss May Davis	do	do
218	Miss M. Winson	do	do
219	A. J. Cook	Lansing, Mich	Richelieu Hotel
220	Mrs. A. J. Cook	do	do
221	Miss A. Curtiss	Owosso, Mich	do
222	Arthur F. Taylor	Cleveland, O	St. Lawrence Hall
223	J. E. Hendrick	Des Moines, Iowa	St. James Hotel
224	Gaetano Lanza	Boston, Mass	20 University street
225	Mrs. M. Hartley Brown	New York City	101 Metcalfe street
226	F. A. Wilber	New Brunswick, N. J	77 Mansfield street
227	Mrs. F. A. Wilber	do	do
227	S. A. Maxwell	Cincinnati, O	St. James Hotel
229	H. A. Hagen	Cambridge, Mass	Windsor Hotel
230	R. L. P. Mason	Providence, R. I	———
231	N. M. Mason	do	———
2	C. H. Fernald	Orono, Me	91 Cathedral street
	Mrs. C. H. Fernald	do	do
	S. Henshaw	Boston, Mass	Windsor Hotel
	L. B. Hall	Haverford, Pa	St. Lawrence Hall
	J. A. Kirkpatrick	Philadelphia, Pa	344 Bleury street
	L. W. Kirkpatrick	do	do
	Mrs. S. L. Fish	Brunswick, Me	91 Cathedral street
	C. Fish	do	do
	W. J. Martin	North Carolina	56 University street
1	B. Forgate	Auburn, N. Y	31 Victoria street
42	Mrs. B. Forgate	do	do
43	Miss M. Kelsey	Clinton, N. Y	do
244	A. P. Kelsey	do	31 Victoria street
245	Canon Henderson	Montreal	852 Dorchester street.
246	S. J. Wardwell	Rutland, Vt	St. Lawrence Hall.
247	Mrs. S. J. Wardwell	do	do
248	Mrs. L. O. Mound	do	do
249	Miss H. M. King	Salem, Mass	903 Sherbrooke street.
250	Miss M. W. Nichols	do	do
251	J. L. Wall	New York City	Windsor Hotel.
252	C. F. Rand	Batavia, N. Y	do
253	W. A. Anthony	Ithaca, N. Y	New York House.
254	Mrs. W. A. Anthony	do	do
255	Miss Anthony	do	do
256	J. B. Webb	do	do
257	S. W. Morehouse	Wayland, N. Y	Windsor Hotel.
258	S. T. Clark	Lockport, N. Y	do
259	J. T. Lovewell	Topeka, Kan	do
260	J. B. Murdock	Annapolis, Ind	219 Peel street.
261	W. H. Pitt	Buffalo, N. Y	do
262	Mrs. Pitt	do	do
263	R. G. Eccles	Brooklyn, N. Y	40 Osborne street
264	E. W. Morley	Cleveland, Ohio	———

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No.	*Name.*	*Permanent Residence.*	*Residence during the Meeting.*
265	Mrs. Morley	Cleveland, Ohio	———
266	Mrs. C. E. Ridler	Kingston, Mass	Albion Hotel.
267	H. N. Rust	Pasaduna, Cal	108 Stanley street.
268	C. E. Ridler	Kingston, Mass	Albion Hotel.
269	Mrs. E. D. Cheney	Jamaica Plain, Mass	101 Metcalfe street.
270	Miss M Peachy	do do	do
271	E. B. Treat	New York	1351 St. Catherine street
272	B. P. Mann	Washington	916 Dorchester street.
273	G. Macloskie	Princeton, N.J	7 Hanover street.
274	W. B. Carpenter,	London, Eng	241 University street.
275	Mrs. Carpenter	do	do
276	W. W. Payne	Northfield, Min	———
277	Jas Warnock	New York	Windsor Hotel.
278	W. H. Mead	do	do
279	Mrs. Mead	New York	Windsor Hotel
280	Mrs. J. C. Lathrop	Bridgeport, Conn	1474 St. Catherine street
281	J. C. Lathrop	do	do
282	T. F. Jewell	Newport, R. I	91 Cathedral street
283	E. S. Dunham	New York,	111 Union Avenue
284	E. K. Fitch	Jefferson, Ohio	St. Lawrence Hall
285	D. H. Wells	Hartford, Conn	19 Brunswick street
286	Mrs. Wells	do	do
287	S. Watson	Cambridge, Mass	903 Sherbrooke street
288	Rev. C. J. S. Bethune	Port Hope, Ont	169 University street
289	G. N. Wilber	New York	1460 St. Catherine stree
290	Miss S. Marble	Woonsocket, R. I	19 Brunswick street
291	J. R. Marble	do	do
292	J. R. Bartlett	Lonsdale, R. I	903 Sherbrooke street
293	J. L. Hills	South Boston	38 Cathcart street
294	E. B. Reed	London, Ont	1466 St. Catherine street
295	T. Green	Easton, Penn	164 Peel street
296	Miss Green	do	do
297	A. May	West Chester, Penn	9 Richmond Square
298	H. S. Bassett	Waterbury	447 St. Lawrence street
299	E. T. Jenks	Middleborough, Mass	1070 St. Catherine street
300	Mrs. Jenks	do	do
301	Miss M. A. Hoskings	do	do
302	Wm. Lilly	Mauch Chunk, Penn	Windsor Hotel
303	Mrs. L. Stone	Chicago, Ill	101 Metcalfe street
304	B. F. Harrison	Wallingford	1460 St. Catherine street
305	J. H. Batchelder	Salem, Mass	Windsor Hotel
306	E. L. Larkins	New Windsor, Ill	St. Lawrence Hall
307	S. Painter	Washington, D. C	1325 St. Catherine street
308	R. Hitchcock	New York	American Hotel
309	W. Osler	Montreal	1351 St. Catherine street
310	S. H. Freeman	Cleveland, Ohio	———
311	C. E. Hausmann	Troy, N. Y	St. James Hotel
312	Miss L. E. Payne	Montreal	130 McKay street
313	G. D. Phippin	Salem, Mass	Windsor Hotel
314	E. J. Bartlett	Hanover, N. H	903 Sherbrooke street
315	J. J. Justice	Standforville, N. Y	21 McGill College Avenue
316	Dr. A. A. Julien	New York	do
317	Mrs. Julien	do	do
318	A. Winchell	Ann Arbour, Mich	1591 St. Catherine street
319	Mrs. Winchell	do	do
320	Miss J. D. Winchell	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
321	C. K. Wead	Ann Arbour, Mich	903 Sherbrooke street
322	C. C. Merriman	Rochester, N. Y	24 Lorne Avenue
323	Mrs. Merriman	do	do
324	Miss G. B. Merriman	do	do
325	C. H. Fisher	Providence, R. I	———
326	H. M. Newington	St. Louis, Miss	256 St. Antoine street
327	Mrs. Ireland	do	do
328	Mrs. H. Ireland	do	do
329	G. W. Winchell	Raleigh, N. C	903 Sherbrooke street
330	Mrs. K. N. Doggett	Chicago, Ill	256 Bleury street
331	G. H. Scribner	Yonkers, N.Y	24 Lorne Avenue
332	G. H. Scribner, jr	do	do
333	H. A. Roland	Baltimore, Md.	42 Victoria street
334	E. T. Nelson	Delaware, Ohio	———
335	E. W. Blake, jr	Providence, R. I	340 Bleury street
336	Mrs. Blake	do	do
337	E. W. Blake, 3rd	do	do
338	J. D. Hyatt	New York	St. James Hotel
339	Mrs. J. D. Hyatt	New York	St. James Hotel
340	E. S. Atwood	East Orange, N. J	9 Richmond place
341	Mrs. Atwood	East Orange, N. J	9 Richmond Square
342	L. Carman	Bengall, N. Y	American Hotel
343	H. A. Homes	Albany, N. Y	903 Sherbrooke street
344	R. J. Wickstead	Ottawa, Ont	Cote St. Antoine
345	C. M. Knight	Akron, Ohio	American House
346	E. C. Denassy	Trenton, Ont	do
347	H. H. Lyman	Montreal	74 McTavish street
348	W. M. Anderson	Columbus, Ohio	———
349	W. H. Ranch	Chicago, Ill	———
350	F. H Herrick	Tilton	80 Union Avenue
351	W. R. Pedrick	Lawrence, Mass	Albion Hotel
352	Mrs. M. M. Barker	Lowell, Mass	do.
353	J. S. Dixwell	Cambridge, Mass	27 Windsor street
354	Mrs. Dixwell	do	do
355	C. A. Young	Princeton, N. J	68 St. Famille
356	B. E. Barker	Lowell, Mass	Albion Hotel
357	Eleanor B. Tedrick	Lawrence, Mass	do
358	J. Logan	New York, N. Y	St. Lawrence Hall
359	Miss Logan	do	do
360	T. S. Robertson	Rockford, Ill	108 Mansfield street
361	Mrs. Robertson	do	do
362	S. W. Holman	Boston, Mass	164 Peel street
363	Arthur Perkins	Hartford, Conn	Diocesan College
364	Horatio Hale	Clinton, Ont	916 Dorchester street
365	A. R. Leeds	Hoboken, N. J	Windsor Hotel
366	Mrs. Leeds	do	do
367	H. T. Eddy	Cincinnati, Ohio	1128 Sherbrooke street
368	Mrs. Eddy	do	do
369	Miss Eddy	do	do
370	James Silliman	Easton, Pa	208 Peel street
371	Mrs. Silliman	do	do
372	E. J. Nolan	Philadelphia, Pa	211 St. Antoine street
373	G. H. Perkins	Burlington, Vt	31 McTavish street
374	L. B. Arnold	Rochester, N. Y	Windsor Hotel
375	A. H. Sabine	Burlington, Vt	947 Dorchester street
366	H C. Hovey	New Haven, Conn	80 Union Avenue

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No.	Name.	Permanent Residence.	Residence during the Meeting.
377	E. T. Hovey	New Haven, Conn.	80 Union Avenue
378	Mary Moody	Buffalo, N. Y	———
379	R. Moody	do	———
380	A. E. Heighway	Cincinnati, Ohio	903 Sherbrooke street
381	P. A. Sherman	Hanover, N. H	16 University street
382	Mrs. Sherman	do	do
383	S. H. Hudson	Clinton, N. Y	23 Shuter street
374	R. P. Whitfield	New York city	Windsor Hotel
385	Wm. Woolsey Johnson	Annapolis, Md	109 Union Avenue
386	Mrs. Johnson	do	do
387	F. Hoffman	New York city	27 Victoria street
388	Mrs. Fred. Hoffman	do	27 Victoria st.
389	Master O. Hoffman	do	do
390	H. Loomis	Burlington, Vt	78 Mansfield St
391	R. W. Willson	New Haven, Ct	Windsor Hotel
392	Mrs. R. W. Willson	do	do
393	Miss N. O. Glover	Brooklyn, N. Y	288 Bleury st
394	Miss M. Glover	do	do
395	Miss L. Ordway	Jamaica Plain	do
396	P. H. Vander Weyde	New York city	104 St. Famille
397	Mrs. Vander Weyde	do	do
398	Mary P. Palmer	Boston, Mass	258 Bleury st
399	Miss C. P. Ames	Jamaica Plain	do
400	P. R. Hoy	Racine, Wis	21 Mark st
401	Miss J. Hoy	do	101 Metcalfe st
402	E. W. Davison	Baltimore, Md	Windsor Hotel
403	H. C. Lewis	Germantown, Pa	———
404	Mrs. Lewis	do	———
405	Miss Lewis	do	———
406	W. B. Dwight	Poughkeepsie N. Y	55 Argyle st
407	Mrs. E. H. Dwight	do	do
408	Miss E. Dwight	do	do
409	L. M. Holstein	Belvedere, N. J	1460 St. Catherine st
410	Mrs. G. W. Holstein	do	do
411	G. W. Holstein	do	do
412	Mrs. A. E. Holstein	do	do
413	S. W. Hammond	Boston, Mass	Windsor Hotel
414	Mrs. Hammond	do	do
415	A. W. Schaefer	Pottsville, Pa	1363 St. Catherine st
416	A. H. Chester	Clinton, N. Y	791 Sherbrooke st
417	J. Tatum	St. Louis, Mo	826 Ontario st
418	Mrs. Tatum	do	do
419	H. Davenport	Cincinnati, Ohio	Windsor Hotel
420	L. H. Armstrong	St. Nicholas, Fla	St. Lawrence Hall
421	Mrs. Armstrong	do	do
422	J. C. Kimball	Boston, Mass	42 Victoria st.
423	C. H. Winston	Richmond, Va	St. James Hotel
424	Wm. Libbey, Jr	Princeton, N. J	Windsor Hotel
425	Mrs. Libbey	do	do
426	H. R. Rogers	Dunkirk, N. Y	———
427	Mrs. T. Meehan	Germantown, Pa	1,474 St. Catherine street
428	Miss Meehan	do	do
429	Thomas Meehan	do	do
430	Miss Sarah Meehan	do	do
531	T. G. Comstock	St. Louis, Mo	Windsor Hotel
432	Mrs. Comstock	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
433	Alice W. Palmer	Roxbury	258 Bleury street
434	James A. Page	Boston, Mass	540 Bleury street
435	Miss A. M. Harmon	Ottawa	1,738 St. Catherine street
436	M. A. A. Livermore	Cambridge, Mass	22 Cathcart street
437	Elizabeth S. Knight	New York, N. Y	do
438	B. W. Eaton	Salem, Mass	11 Hanover street
439	Mary H. Stone	do	do
440	Lincoln W. Stone	Newtown, Mass	do
441	Laura P. Stone	do	do
442	Harriet P. Stone	do	do
443	Harriet L. Wolcott	Boston, Mass	do
444	Henrietta Wolcott	do	do
445	John S. Jack	Chateauguay	———
446	Grace Wolcott	Boston, Mass	11 Hanover street
447	Miss Jack	Chateauguay	———
448	Mrs. A. Jack	do	———
449	Leander Safford	Boston, Mass	207 Bleury street
450	Mary Safford	do	do
451	W. S. Stearns	New York, N. Y	1,396 St. Catherine street
452	N. L. Britton	New York City	148 Peel street
453	Arthur H. Elliott	do	27 Windsor street
454	Geo. F. Kunz	do	1,474 St. Catherine street
455	Mrs. Kunz	do	do
456	Rev. S. J. Coffin	Easton, Pa	802 Sherbrooke street
457	Mrs. Coffin	do	do
458	Charles Speck	St. Louis, Mo	799 Sherbrooke street
459	Geo. Sutton	Aurora, Ind	———
460	Georgia Sutton	do	———
461	W. H. Harding	Lunenburg, Ind	———
462	Mrs. Harding	do	———
463	Otis Bigelow	Washington	78 Mansfield street
464	R. P. Bigelow	do	do
465	S. A. Lattimore	Rochester, N. Y	903 Sherbrooke street
466	E. S. Dana	New Haven, Conn	Walbrae P. Dr. Harrington
467	Dr. Schweitzer	Columbia, Mo	32 McTavish street
468	D. S. Kellogg	Clinton, N. Y	23 Shuter street
469	Mrs. Kellogg	do	do
470	Janet W. Williams	Newton Falls, Mass	43 Mayor street
471	Mary C Moore	do	do
472	Dr. Louis Elsberg	New York city	Windsor Hotel
473	Mrs. Elsberg	do	do
474	Carl Leiler	Philadelphia, Pa	1,325 St. Catherine street
475	D. B. F. Davenport	Boston, Mass	27 Victoria street
476	Mrs. Davenport	do	do
477	Miss Emma Davenport	do	do
478	" Mattie Davenport	do	do
479	" Mary Davenport	do	do
480	C. H. Sprague	Malden, Mass	Windsor Hotel
481	Mrs. Sprague	do	do
482	Frank Baker	Washington, D. C	American House
483	Dr. Alex. S. Fenwick	London, Ont	7 Mackay street
484	Miss Louise Fenwick	do	do
485	C. J. Bernes	Chicago, Ill	17 Durocher street
486	R. Janney	Wilmington, Ohio	45 Metcalfe street
487	Miss Ella Janney	do	do
488	C. D. Zimmerman	Buffalo, N. Y	American House

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No.	Name.	Permanent Residence.	Residence during the Meeting.
489	Prof. B. Hedrick	Washington, D.C.	St. Lawrence Hall
490	Mrs. Hedrick	do	do
491	Wm. H. Brewer	New Haven, Conn	Windsor Hotel
492	Wm. A Rogers	Cambridge, Mass	893 Sherbrooke street
403	J. H. Washburn	Bridgewater, Mass	38 Cathcart street
494	D. C. Gilman	Baltimore, Md	Windsor
495	Miss Gilman.	do	do
496	Mrs. Gilman	do	do
497	Miss A. Gilman	do	do
498	M. J. Morse	Lawrence, Mass	Albion House
499	Wm. Zimmermann	Chicago, Ill	American House
500	Miss Fanny Zimmermann	Buffalo, N. Y.	do
501	W. J. Beal	Lansing, Mich.	Richelieu Hotel
502	Miss Beal	do	do
503	Miss Beal	do	do
504	Mr. Trowbridge	Detroit, Mich.	23 Hanover street
505	Mrs. Trowbridge	do	do
506	Carl Warnecke	Montreal	157 St. Constant
507	C. E. Monroe	Annapolis, Md	757 Sherbrooke street
508	Miss Stone	Chicago, Ill	101 Metcalfe street
599	Mrs. H. Stone	do	do
510	S. J. Horton	Chester, Conn	Windsor Hotel
511	Chas. V. Woers	Waltham, Mass	do
512	Thomas Taylor	Washington, D. C	893 Sherbrooke street
513	Miss Taylor	do	do
514	J. W. Doughty	Newburgh	St. James Hotel
515	Nath. Paine.	Worcester, Mass	Windsor Hotel
516	Mrs. N. Paine	do	do
517	R. V. Merchant	East Plymouth, Mass	American House
518	Mrs. Merchant	do	do
519	J. Anderson	Waterbury, Conn	41 St. Mark street
520	Mrs. J. Anderson	do	do
521	Edwin Harrison	St. Louis, Mo	799 Sherbrooke street
522	Mrs Harrison	do	do
523	Mr. J. K. Rees	New York, N. Y	Windsor Hotel
524	R. H. Ward.	Troy, N. Y	20 Beaver Hall
525	J. S. Copes	New Orleans	757 Sherbrooke street
526	Miss E. Herman.	New York, N. Y	Windsor Hotel
527	John Trowbridge	Cambridge, Mass	do
528	Mrs. J. Trowbridge	do	do
529	Miss Alice Gray	do	do
530	Wm. H. Barr	Troy, N.Y	do
531	Mrs. Barr	do	do
532	Thos. S. Gladding	New York, N.Y	205 Mansfield street
533	Wm. Gladding	do	do
534	A. W. Butler	Brockville, Ind	American House
535	A. B. Hervey	Taunton, Mass	1819 St. Catherine street
536	Miss Curo	Keysville, N.Y	1128 Sherbrooke street
537	T. R. Pynchon	Hartford, Conn	21 McGill College Ave
538	T. Beall	Lindsay, Ont	11 Burnside Place
539	Louisa Frost	Yonkers, N.Y	24 Lorne Avenue
540	Mr. Dalbras	College Hill, Mass	
541	C. Roosevelt	New York, N.Y	1070 St. Catherine street
542	J. W. Lovell	do	1283 St. Catherine street
543	Mrs. Lovell	do	do
544	Mrs. J. W. Lovell	do	do
545	Joseph Libbey	Georgetown, D.C	Windsor Hotel
546	Mrs. E. Orton	Columbus, O	799 Sherbrooke street
547	E. Orton	do	do
548	E. W. Claypole	Perry Co., Pa	42 Prince Arthur street
549	Mrs. Claypole	do	do

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No.	Name.	Perminent Residence.	Resiecnce during the Meeting.
550	Pliny E. Chase	Haverford, Pa	168½ St. Denis street
551	Eliz. B. Chase	do	do
552	Maria Chase	do	do
553	Harriet Chase	do	do
554	James E. Oliver	Ithaca, N.Y	do
555	Martha Oliver	do	do
556	May Oliver	do	do
557	J. D. Warner	Brooklyn, N.Y	Richelieu Hotel
558	Miss Warner	do	do
559	Mrs. J. D. Warner	do	do
560	Miss L. Warner	New York, N.Y	do
561	Mrs. Weld	do	do
562	H. E. Smith	Hartford, Conn	14 McGill College Ave
563	I C. White	Morgantown, W. Va	23 Hanover street
564	A. Tuttle	Columbus, O	Windsor Hotel
565	Mrs. Tuttle	do	do
566	J. S. Hicks	Roslyn, N Y	St. Lawrence Hall
567	Miss Hicks	do	do
568	S. D. Purinton	Greenville, S. C	23 Hanover street
569	J. A. Lentner	Albany, N. Y	764 Sherbrooke street
570	Mrs. Lintner	do	do
571	Dr. J. W. Gilbert	Rothampsted, Eng	182 University street
572	S. Marsden	St. Louis, Mo	St, James Hotel
573	Mrs. M. F. Walling	Washington, D. C	111 Union Avenue
574	Henry F. Walling	do	do
575	Mrs. N. M. Arnold	do	do
576	Miss Lizzie B. Walling	do	do
577	Mrs. J. W. Gilbert	Rothampsted, Eng	182 University street
578	Asa Gray	Cambridge, Mass	Dr. Dawson
579	Mrs. Gray	do	do
580	A. C. Fletcher	do	103 Union Avenue
581	Mary Lyndall	Omaha, Ind	do
582	Mr. A. B. Bleckoett	Somerville, N. J	903 Sherbrooke
583	Mary E. Owens	Cincinnati, O	101 Metcalfe street
584	Mrs. Wm. Owens	do	do
585	H. L. Smith	New York, N. Y	29 Burnside street
586	Mrs. J. H. Smith	do	do
587	R. M. Atwater	Milleville	1673 St. Catherine
588	Abby Atwater	do	do
589	Louis H. Pignolet	Montreal	104 St. Famille
590	Mrs. Pignolet	do	do
591	Miss Pignolet	do	do
592	Louis M. Pignolet	do	do
593	Benj. Cotting	Roxbury, Mass	Dr. Hingston
594	H. S. Evans	Montreal	400 Sherbrooke
595	Mrs. Evans	do	do
596	Miss Evans	do	do
597	G. F. Markoe	Boston, Mass	do
598	Mrs. Markoe	do	do
599	Henry A. Jones	Portland, Me	Windsor Hotel.
600	Mrs. Jones	do	do
601	Robert Brown	New Haven, Conn	791 Sherbrooke st.
602	Mrs. Brown	do	do
603	Miss Brown	do	do
604	Dr. A. J. Howe	Cincinnati, O.	———
605	Mrs. Howe	do	———
606	H. Fairbank	St. Johnsburg, Vt	Windsor Hotel.
607	D. W. Prentis	Washington, D.C	do
608	Mrs. Prentis	do	do
609	Miss Carman	do	———
610	Mr. Canfield	do	———

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No.	Name.	Permanent Residence.	Residence during the Meeting.
611	S. Fleming	Ottawa	Windsor Hotel.
612	Mrs. J. Hall	Albany, N.Y	600 Sherbrooke st.
613	Miss Anna Hall	do	do
614	Mrs. Barler	Montreal	do
615	C. F. Clapp	S. Hadley, Mass	———
616	Miss A. Fay	do	———
617	Wm. J. Johnson	Washington, D.C	Windsor Hotel.
618	W. H. Manning	Reading, Mass	Albion Hotel.
619	Mrs. Manning	do	do
620	J. R. Edmands	Cambridge, Mass	903 Sherbrooke st.
621	Miss Edmands	Salem, Mass	do
622	S. W. Will	Washington, D.C	916 Dorchester st.
623	P. W. Schaefer	Stotsville, Pa	Windsor.
624	Miss L. Schaefer	do	do
625	Henry Schaefer	do	do
626	H. Cargill	Toronto	St. Lawrence.
627	Eli T. Tappan	Gambier, O	31 Donegana st.
628	Mrs. Tappan	do	do
629	Mrs. J. H. Wright	Hanover, N.H	do
630	E. R. Leland	New York, N.Y	Windsor.
631	Ruth Leland	do	do
632	C. F. Hitchcock	Hanover, N.H	do
633	S. H. Snelling	Boston, Mass	do
634			
635	Mrs. J. R. Dodge	Washington, D.C	898 Dorchester street
636	Sarah M. Dawson	Boston, Mass	161 Mountain street
637	Fanny Dawson	do	do
638	Louis C. Wartele	Actonvale, Q	901 Sherbrooke street
639	Mary Wartele	do	84 St. Hubert street
640	Miss Fortier	do	901 Sherbrooke street
641	E. G. Miller	Baltimore	St. Lawrence Hall
642	Susan P. Boynton	Lynn, Mass	———
643	Chas. S. Hastings	Baltimore	211 Peel street
644	R. B. Warder	Cincinnati, O	Cote St. Antoine, J. Little
645	Miss A. Warder	do	do
646	T. W. Mills	Montreal	561 Dorchester street
647	F. L. Capen	Boston, Mass	McGill College
648	F. B. Hough	Lowville, N.Y	St. Lawrence Hall
649	John Eaton	Washington, D.C	do
650	Mrs. Eaton	do	do
651	C. Mohr	Mobile, Alb	do
652	H. A. Smith	Cincinnati, O	Windsor Hotel
653	F. A. Sulley	Oktibbeha Co., Miss	Richelieu Hotel
654	A. Melville Bell	Georgetown, D.C	Windsor Hotel
655	S. M. Merryweather	Cincinnati, O	79 Mansfield street
656	S. W. Merryweather	Bellefontaine, O.	do
657	J. H. Pillsbury	Springfield, Mass	903 Sherbrooke street
658	E. L. Nichols	Richmond, Ky	———
659	H. Snyder, Jr	Columbus, O	Richelieu Hotel
660	C. F. Lamb	Rochester, N.Y	Windsor Hotel
661	John W. Spencer	Sullivan Co., Ind	1130 St. Catherine street
662	N. M. Terry	Annapolis, Md	Windsor—90 Union Ave
663	Mrs. C. A. Terry	do	do
664	H. M. Parkhurst	New York, N.Y,	1431 St. Catherine street
665	Mrs. Parkhurst	do	do
666	Miss Ida Parkhurst	do	do
667	Rev. S. Bush	Waterford, NY	do
668	J. J. L. Hinds	Lebanon, Tenn	903 Sherbrooke street
669	A. C. Hamlin	Bangor, Me.	113 University street
670	Prof. Webster	Norfolk, Va	Windsor
671	Mrs. Webster	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
672	Louis Swift	Rochester, N.Y	1357 St. Catherine St
673	Mrs. Swift	do	do
674	Miss H. Hamlin	———	113 University St
675	Miss Stetson	———	do
676	Mrs. A. C. Hamlin	Bangor, Me	do
677	Benj. F. Thomas	Columbia, Mo.	St. Lawrence Hall
678	S. P. Hart	Hamilton Co., O	20 University St
679	Mrs. Hart	do	do
680	R. B. Hare	Guelph, Ont	87 Cathedral St
681	Mrs. Hare	do	do
682	Mary R. Alling	Boston, Mass	207 Bleury St
683	Mrs. S. H. Perkins	Burlington, Vt	31 McTavish St
684	J. W. Chickering	Washington, D.C	78 Mansfield St
685	W. H. Leaman	do	537 St. Lawrence St
686	Mrs. Leaman	do	do
687	Miss S. E. Clark	do	do
688	Wm. Bross	Chicago	Windsor
689	L. B. Fletcher	Marlboro, N.Y	———
690	Chas. R. Dodge	Washington, D.C	852 Dorchester St
691	Mrs. Dodge	do	do
692	Miss F. White	Pittsfield, Mass	do
693	H. P. Bowditch	Boston, Mass	66 McGill College Avenue
694	Mrs. Bowditch	Jamaica Plain	do
695	C. Constable	Constableville, N.Y	31 McTavish St
696	Thos. McFadden	Westerville, O	———
697	Robt. C. Adams	Montreal	45 Metcalfe St
698	De Volson Wood	Hoboken, N.J	———
699	Miss A. Wurtfeldt	St. Louis, Mo	207 Bleury St
700	Miss E. Wurtfeldt	do	do
701	A. P. Hallock	New York, N.Y	———
702	Mrs. Hallock	do	do
703	F. W. Crosby	Washington, D.C	Victoria House
704	Hannah E. Crosby	do	do
705	F. A. Sulley	Oktibbeha Co., Miss	Richelieu Hotel
706	E. L. Hood	Minneapolis, Minn	Canada Hotel
707	W. Crosby	Boston, Mass	207 Bleury St.
708	Eliz. Curtis	Jamaica Plain	do
709	Alice B. Crosby	Boston, Mass	do
710	F. Spier	S. Orange, N. Y.	Windsor Hotel
711	C. A. Miller	Carthage, O	do
712	C. A. Miller	do	do
713	L. A. Miller	Cincinnati, O	do
714	Mrs. Miller	do	do
715	R. M. Byrnes	do	do
716	Mrs. Byrnes	do	do
717	Ed. Murphy	Montreal	1526 St. Catherine
718	T. J. Wilmot	Rye, N.H	149 Durocher st
719	T. R. Lonnesbury	New Haven, Conn	Windsor Hotel
720	Sarah F. Whiting	Wellesley, Mass	do
721	T. H. Jones	do	do
722	L. M. Hodgkins	do	do
723	Marion Pelton	do	do
724	H. F. Osborn	Princeton, N.J	do
725	Miss A. L. Wingate	Brooklyn, N.Y	903 Sherbrooke st
726	S. L. Frey	Palatine Bridge, N.J	28 Cathcart street
727	Mrs. A. E. Frey	do	do
728	John S. Clark	Boston, Mass	317 Drummond street
729	S. F. Peckham	Providence, R.I	Windsor Hotel
730	Dr. O. D. Norton	Cincinnati, O	do
731	Rev. J. Cummings	Evanston, Ill	56 University street
732	O. Atwood	Rutland, Vt	1283 St. Catherine street.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
733	Ed. Drummer	Boston, Mass	Canada Hotel
734	James Troop	Lansing, Mich	Richelieu Hotel
735	J. B. Stone	Detroit, Mich	23 Hanover street
736	Mrs. Stone	do	do
737	A. B. Howe	New Haven, Mich	903 Sherbrooke street
738	J. P. Iddings	Orange, N.J	41 McGill College Av.
739	Henry Stone	New York, N. Y	St. Lawrence Hall
740	Mrs. C. E. Whiton	do	do
741	Miss E. Whiton	do	do
742	Abbé Chabert	Montreal	111 Notre Dame street
743	T. W. Gleeson	Boston, Mass	Cathedral street
744	L. W. Andrews	Brooklyn, N. Y	404 St. Antoine street
745	Miss J. Andrews	do	do
746	Miss Hutchison	do	do
747	B. B. Dale	Cincinnati, O.	Albion Hotel
748	John Wanless	Montreal	88 Union Avenue
749	Mrs. Wanless	do	do
750	James Wanless	do	do
751	Miss Wanless	do	do
752	Brown Ayres	New Orleans, La	———
753	Richard Colburn	Elizabeth, N. J	Victoria Hotel
754	Mrs. Colburn	do	do
755	B. Fernon	Statington, Pa	77 Mansfield street
756	S. F. Ballow	Waltham, Mass	———
757	Alvan Moore	Magog, Q	St. Lawrence Hall
758	Mrs. Constable	Constableville, N. Y	31 McTavish street
759	Prof. Purinton	Morgantown	23 Hanover street
760	H. O. Marcy	Boston, Mass	27 Windsor street
761	L. E. Russell	Springfield, O	———
762	Mrs. Russell	do.	———
763	Mrs. E. M. Stone	Providence, R. I	11 Hanover street
764	A. Proudfoot	Montreal	2 Phillips Place.
765	Mrs. Proudfoot	do.	do
766	Miss Cleveland	Michigan, Ill	88 Drummond street
767	Anna J. Morton	do.	do
768	Marion Fortescue	New York City	Windsor Hotel
769	Miss Fortescue	do.	do
770	E. L. Youmans	do.	do
771	Mrs. Youmans	do.	do
772	Joseph Bemrose	Montreal	Box 158
773	James Fletcher	Ottawa	———
774	W. H. Harrington	Ottawa	———
775	T. Townsend	Durham, Ont.	Victoria House.
776	E. Hungerford	Burlington, Vt	80 University street.
777	Miss Hungerford	do	do
778	C. J. Blake	Boston	15 Ontario street.
779	Mrs. C. Blake	do	do
780	Miss Hughes	do	do
781	Chas. H. Pettee	Hanover, N.H	Richelieu Hotel
782	H. F. Homes	Albany, N.Y	903 Sherbrooke street.
783	W. A. Silliman	Clarkson, N.Y	281 University street.
784	Miss Bellinger	do	do
785	Miss A. Williams	———	———
786	Maria Thompson	Cincinnati, O	791 Sherbrooke street.
787	Mrs. A. B. Smith	St. Albans, Vt	Windsor.
788	Miss H. Smith	do	do
789	W. H. Lynch	Danville, P.Q	486 Ontario street.
790	Geo. Baptie	Ottawa	———
791	Rev. S. Heine	Montreal	———
792	S. T. Robins	do	Hochelaga.
793	R. H. Lamborn	New York	Windsor.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
794	A. N. Phelps	Chateauguay, N.Y	do
795	S. L. Marler	Montreal	18 Fort street
796	Fred. H. Hedge	Boston, Mass	Windsor
797	John Kennedy	Montreal	113 University street.
798			
799	Miss J. Haight	do	1738 St. Catherine street.
800	E. A. Bowser	New Brunswick, N.J	St. Lawrence Hall.
801	Mrs. B. H. Dickson	Montreal	88 Union Av.
802	Miss B. Latour	do	36 McGill street.
803	Mrs. Lotour	do	do
804	Miss M. Latour	do	do
805	Mr. Bossom	do	do
806	Miss M. Bossom	do	do
807	A. P. Stewart	Lincoln, Neb	Windsor.
808	Mrs. Stewart	do	do
807	A. P. Stewart	Lincoln, Neb	Windsor Hotel
808	Mrs. Stewart	do	do
809	Thos. S. Case	Kansas City, Mo	1153 St. Catherine street
810	S. S. Haight	New York, N.Y	1431 do
811	Mrs. M. A. Bingham	Kansas City, Mo	1153 do
812	Mrs. F. O. Case	do	1153 do
813	Alex. Moore	Boston, Mass	25 St. Denis street
814	Alex. Moore, jr	do	do
815	Henry Carmichael	Brunswick, Me	———
816	J. M. McLarty	Boston, Mass	25 St. Denis street
817	Leonard Waldo	New Haven, Conn	127 Metcalfe street
818	Mrs. Waldo	do	do
819	G. E. Hood	Lawrence, Mass	Richelieu Hotel
820	Miss Hood	do	do
821	Miss Clara Hood	do	do
822	A. F. Crowell	Woodshall, Mass	Windsor Hotel
823	Mrs. Crowell	do	do
824	Miss R. Shunick	do	do
825	Miss P. Crowell	do	do
826	Fred. Frothingham	Milton, Mass	Piedmont, Durocher st
827	Mrs. Frothingham	do	do
828	Robt. A. Ramsay	Montreal	1134 Sherbrooke street
829	H. W. Williams	Boston, Mass	———
830	E. H. Hall	Cambridge, Mass	———
831	F. D. Adams	Ottawa, Geol. Survey	41 McGill avenue
832	Wm. H. Niles	Cambridge, Mass	———
833	John Davis	Cincinnati, O	793 Sherbrooke street
834	Mrs. Davis	do	do
835	E. S. Ritchie	Boston, Mass	Windsor Hotel
836	C. J. Morse	Youngstown, O	79 Mansfield street
837	Miss Morse	do	do
838	W. O. Stillman	Saratoga, N.Y	———
839	Mrs. Stillman	do	———
840	E. B. Whitman	Cambridge, Mass	344 Bleury street
841	Rev. Prof. Wiltshire	Lewisham, London, S. E.	McGill University
842	Mrs. Wiltshire	do	do
843	J. S. Shene	London, S. E	do
844	W. Raymond Rogers	Dunkirk, N.Y	Richelieu Hotel
845	E. H. Vredenburgh	Rochester, N. Y	Windsor Hotel
846	Mrs. Anna Ayrault	do	do
847	Robert Mathews	do	do
848	Mrs. R. Mathews	do	do
849	Mrs. C. E. Mathews	do	do
850	L. Schoney	New York, N. Y	———
851	Mrs. Schoney	do	———
852	Master Schoney	do	———

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No.	Name.	Permanent Residence.	Residence during the Meeting.
853	J. S. Newbury	New York, N. Y	Windsor Hotel
854	S. Mallery	Washington, D. C	1013 Sherbrooke street
855	Mrs. Mallery	do	do
856	F. Humphreys	New York, N. Y	Windsor Hotel
857	S. Gould	Manchester	———
858	E. R. Tyler	Washington, D. C	852 Dorchester street
859	Fred. Over	Beverley, Mass	Windsor Hotel
860	J. W. Langley	Ann Arbor	———
861	J. H. Feemister	Cincinnati	Windsor Hotel
862	David S. Jordan	Bloomington, Ind	St. James Hotel
863	Mrs. Joseph Tiffin, Jr	Montreal	864 Sherbrooke street
864	Miss Eliza Tiffin	do	do
865	Miss Mary Lovell	do	do
866	Solon F. Whitney	Watertown, Mass	Richelieu Hotel
867	Wills De Haas	Washington, D. C	Windsor Hotel
868	Mrs. De Haas	do	do
869	J. S. Schanck	Princeton, N. J	do
870	C. F. Brackett	do	do
871	John Bull	Washington, D. C	do
872	W. H. Lennon	Brockport, N.J	Canada Hotel
873	Mrs. W. H. Lennon	do	do
874	Miss F. M. Knight	Plattsburgh, N. Y	do
875	W. H. Ellis	Toronto	1351 St. Catherine street
876	T. R. Baker	Millersville, Pa	254 Bleury street
877	Mrs. S. Baker	do	do
878	P. A. Owen	Burlington, Vt	31 Victoria street
979	Mrs. Owen	do	do
880	Mr. Hibbard	Montreal	43 Mayor street
881	Miss T. Moore	do	do
882	Mrs. J. Bull	Washington, D. C	Windsor Hotel
883	T. W. Teemster	Cincinnati, O	do
884	E. Danforth	Elmira, N.Y	———
885	Geo. Bowles	Montreal	1466 St. Catherine street
886	Geo. Iles	do	Windsor Hotel
887	Joseph B. F. Osgood	Salem, Mass	do
888	H. R. Ives	Montreal	791 Sherbrooke street
889	Mrs. Ives	do	do
890	Hiram V. King	Stanford, Conn	———

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,

TUESDAY, AUGUST 29.

OFFICERS OF THE ASSOCIATION.

FOR THE

MONTREAL MEETING.

PRESIDENT.

J. W. DAWSON, of Montreal.

VICE-PRESIDENTS.

A. **Mathematics and Astronomy**—W. A. ROGERS, of Cambridge, in the absence of WILLIAM. HARKNESS, of Washington.
B. **Physics**—T. C. MENDENHALL, of Columbus.
C. **Chemistry**—H. C. BOLTON, of Hartford.
D. **Mechanical Science**—W. P. TROWBRIDGE, of New Haven.
E. **Geology and Geography**—E. T. COX, of San Francisco.
F. **Biology**—W. H. DALL, of Washington.
G. **Histology and Microscopy**—A. H. TUTTLE, of Columbus.
H. **Anthropology**—ALEXANDER WINCHELL, of Ann Arbor, in the absence of DANIEL WILSON, of Toronto.
I. **Economic Science and Statistics**—E. B. ELLIOTT, of Washington.

PERMANENT SECRETARY

F. W. PUTNAM, of Cambridge.

GENERAL SECRETARY.

WILLIAM SAUNDERS, of London, Ontario.

ASSISTANT GENERAL SECRETARY.

J. R. EASTMAN, of Washington.

SECRETARIES OF THE SECTIONS.

A. **Mathematics and Astronomy**—H. T. EDDY, of Cincinnati.
B. **Physics**—CHAS. S. HASTINGS, of Baltimore.
C. **Chemistry**—ALFRED SPRINGER, of Cincinnati.
D. **Mechanical Science**—J. BURKITT WEBB in absence of CHARLES B. DUDLEY, of Altoona.
E. **Geology and Geography**—H. S. WILLIAMS, Ithaca, N.Y. in absence of C. E. DUTTON, of Washington.
F. **Biology**—WM. OSLER, of Montreal, in absence of CHARLES S. MINOT, of Boston.
G. **Histology and Microscopy**—ROBERT BROWN, JR., of New Haven.
H. **Anthropology**—OTIS T. MASON, of Washington.
I. **Economic Science and Statistics**—F. B. HOUGH, of Lowville.

TREASURER.

[WILLIAM S. VAUX, the Treasurer elect, died in May last.]

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MEMBERS

OF THE

STANDING COMMITTEE

FOR THE

MONTREAL MEETING.

Past Presidents.—JAMES D. DANA, of New Haven; JAMES HALL, of Albany; STEPHEN ALEXANDER, of Princeton; ISAAC LEA, of Philadelphia; F. A. P. BARNARD, of New York; J. S. NEWBERRY, of New York; B. A. GOULD, of Boston; T. STERRY HUNT, of Montreal; ASA GRAY, of Cambridge; J. LAWRENCE SMITH, of Louisville; JOSEPH LOVERING, of Cambridge; JOHN L. LECONTE, of Philadelphia; J. E. HILGARD, of Washington; SIMON NEWCOMB, of Washington; O. C. MARSH, of New Haven; GEORGE F. BARKER, of Philadelphia; GEORGE J. BRUSH, of New Haven.

Vice-Presidents of the Last Meeting.—WILLIAM HARKNESS, of Washington; E. T. COX, of San Francisco.

Officers of the Present Meeting.—J. W. DAWSON, of Montreal; WM. HARKNESS, of Washington; T. C. MENDENHALL, of Columbus; H. C. BOLTON, of Hartford; W. P. TROWBRIDGE, of New Haven; E. T. COX, of San Francisco; W. H. DALL, of Washington; A. H. TUTTLE, of Columbus; DANIEL WILSON, of Toronto; E. B. ELLIOTT, of Washington; F. W. PUTNAM, of Cambridge; WM. SAUNDERS, of London; J. R. EASTMAN, of Washington; H. T. EDDY, of Cincinnati; C. S. HASTINGS, of Baltimore; ALFRED SPRINGER, of Cincinnati; J. BURKITT WEBB, of Ithaca; H. S. WILLIAMS, of Ithaca; WM. OSLER of Montreal; ROBERT BROWN, JR., of New Haven; O. T. MASON, of Washington; F. B. HOUGH, of Lowville, ALEXANDER WINCHELL, of Ann Arbor, W. A. ROGERS, of Cambridge.

From the Association at Large.—One Fellow elected from each section. W. W. JOHNSON, Annapolis; Dr. P. R. HOY, of Racine; E. W. BLAKE, of Providence; S. A. LATTIMORE, of Rochester; G. H. COOK, of New Brunswick; A. J. COOK, of Lansing; R. H. WARD of Troy; DE VOLSON WOOD, Hoboken; C. A. YOUNG, of Princeton.

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ANNOUNCEMENT OF THE LOCAL SECRETARIES.

The sessions of the Association, which begun on Wednesday, August 23rd, at 10 a.m., will be held in the buildings of the McGill University. The offices of the Permanent Secretary and the Local Secretaries, with Post-office, Express, Telegraph and Telephone, will be in the central building of the College, and the General Sessions will be held in the William Molson Hall. The Queen's Hall, in University Street, will, however, serve for public evening meetings.

Members are requested to call and register their names at the offices of the Permanent and Local Secretaries, in the central building, McGill College, as soon as possible after their arrival. They are requested to enter separately each member of their families accompanying them. Each person so registered will receive a ribbon, stamped with the number against his or her name on the register, and is requested to wear it during the meeting. This will greatly facilitate the local arrangements. Upon registering their names, members will receive a hand-book of Montreal, prepared by the Local Committee.

Members of the Local Committee will be in waiting at the Committee Room each day, to render such assistance as may be needed, and will be designated by a badge.

Members of the Railway Committee will be in attendance at the Committee Room, daily, to give such information as may be in their power.

Members of the Excursion Committee will be in attendance at the same place, and members of the Association intending to avail themselves of the opportunities offered, will please register their names for the several excursions as soon as possible.

The excursion to Lake Memphremagog by the South Eastern Railway, and that to Lachine by the Grand Trunk Railway, are given by these lines free of charge.

Through the liberality of the Western Union Telegraph Co., and the Great North-Western Telegraph Company, telegraphic messages relating to family, social or scientific matters, will be sent from Montreal, during the meeting, for members of the Association, free of charge to all parts of the United States and Canada.

Members going to hotels will be taken thither with baggage at twenty-five cents. There will also be omnibuses plying between the College and the principal hotels for a fare of ten cents. These omnibuses will be marked, A.A.A.S.

There will be a daily luncheon in a temporary building in the College grounds, for which tickets may be purchased at the door.

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The Association Post-office will be found in the central building of the College. The office will be open from 8 a.m. to 6 p.m., from August 22nd to 31st, excepting on Sunday, when it will be open only from 2 to 4 o'clock p.m.

Mails will be received three times a day: at 8 a.m., 10 a.m., and at 2 p.m. Letters will be sent to the main office at 2 p.m., 5 p.m., and at 6.30 p.m. Express packages will be received and delivered at the Association Post-office.

The City Directory, Pathfinder, Railway Time-tables, Railway Guides, &c., will be found at the office of the Local Secretaries.

Representatives of the press in attendance upon the meeting can obtain special tickets on application to the Local Secretaries.

General invitations have been extended to the members of the Association by:—

The Library and Museum of McGill University;

The Library of the Mechanics' Institute of Montreal, St. James Street;

The Gallery of the Art Association of Montreal, Phillips Square;

The Museum of the Natural History Society of Montreal, University Street;

The Collections of the Numismatic Society in the Natural History Society's building, University Street;

The Reading Room of the Young Men's Christian Association, Victoria Square;

Merchants' Exchange Reading Room, St. Sacrament Street;

By favor of Messrs. Allan the Steamship "PARISIAN" is open for the inspection of members. Permits may be had at the office of the Local Secretary. The steamer is berthed near the entrance to the Canal at the foot of McGill Street, and will remain open every day until Tuesday.

EXCURSION TO LACHINE AND DOWN THE RAPIDS.

Persons desiring to make this trip may leave the Bonaventure Depot either at 7 a. m., 7.55 a. m., or at 5 p. m. on any week day from the 23rd to the 30th inst.

The ticket, with which each will be provided by application at the office in McGill College, must be given up on board the steamer at Lachine.

EXCURSION TO NEWPORT.

Persons desiring to join this excursion will leave the Bonaventure Depot on Thursday, the 31st inst., at 8 a.m., sharp. The S. E. R. will entertain the excursionists at dinner at the Memphremagog House, Newport. The Steamer *Lady of the Lake* will then leave for a trip on the lake. The train will leave for Montreal at 6.30 p.m.

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EXCURSION TO HARBOUR, VICTORIA BRIDGE, AND GRAND TRUNK WORKSHOPS.

The Harbour Commissioners' steamer will leave the Jacques Cartier or Island Ferry Wharf, at foot of Jacques Cartier Square, Wednesday, 30th, at 2 p.m., *sharp*, reaching the Canal Basin about 3 p.m., when the members of the excursion will enter the train provided by the G.T.R., and visit the Victoria Bridge, Workshops, etc.

The Excursions to Lachine by the Grand Trunk Railway; to Quebec by the Richelieu and Ontario Navigation Co.'s steamer, and return by the North Shore Railway; to Ottawa, by the Canadian Pacific Railway; to Newport, by the South Eastern Railway, are given by these companies free of cost.

The excursion to the Harbour, Victoria Bridge, and Grand Trunk Workshops is by the courtesy of the Harbour Commissioners and the Grand Trunk Railway Co.

IROQUOIS HOUSE, ST. HILAIRE.

During the meeting of the A. A. A. S. Messrs.Campbell Brothers, for a party of fifteen or more offer to provide an omnibus from McGill University at 5 p. m. to the G. T. R. Station for train at 5.20 p. m., return ticket for St. Hilaire, supper, bed and breakfast, for three dollars. The attractions of Belœil Mountain and Lake in close proximity to the city, will, it is hoped, lead to a large party availing themselves of these liberal terms.

LORNE HOUSE, VARENNES MINERAL SPRINGS, VARENNES, P. Q.

This very comfortable hotel at one of the most popular summer resorts in Canada, may be reached by Steamer leaving Jacques Cartier Wharf at 5 p. m. Returning the Steamer leaves Varennes at 7.50 a. m., reaching Montreal at 9 a. m.

The trip through the St. Lawrence is delightful, and will be found refreshing after a day's Association work.

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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary, central building, McGill University, as soon as possible after arrival, to receive their members' tickets.

All assessments and admission-fees must be paid at the office of the Permanent Secretary, and the assessment for the meeting must be paid before registering with the Local Secretaries.

A list of newly elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for Recommendation to Membership can be obtained at the office of the Permanent Secretary.

A subscription-list for the Montreal volume of proceedings is open at the office of the Permanent Secretary; and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50 or more, will receive a copy of the volume, by mail, as soon as published.

The volumes of the Proceedings of the Association can be obtained from the Permanent Secretary at the price of $1.50 per volume; or any member wishing for ten or more volumes, in order to complete a set, may obtain them at $1.00 per volume. The volumes may be had bound in cloth for the extra price of 50 cts each, or in half morocco for the extra price of $1.00 each. Uniform cloth covers for the volumes will be furnished by mai

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at 30 cts. each, or by express for 25 cts. each. Copies of volumes 2, 22, 27 and 28 will be received in exchange for other volumes, or will be purchased at $1.00 each. At present copies of volume 27 can only be furnished to members, or on orders, as they are obtained.

The Memoir on Fossil Butterflies, by Mr. S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, 4to, 1875, will be furnished at $2.00 a copy, or at $3.50 bound in half morocco. The Transactions of the American Association of Geologists and Naturalists, 1 vol., 8vo., 1843, bound in cloth, can be obtained at $3.00 a copy, or bound in half morocco, uniform with the Proceedings, for $4.00.

At the Boston meeting the Standing Committee called attention to the importance of re-printing several volumes of the Proceedings of this Association, but stated that this could not be done without the liberal assistance of members and others interested, and asked for subscriptions for this purpose. As full sets of the Proceedings are in demand, particularly in consequence of the late increase in membership, it is hoped that the necessary means will be secured for this purpose. The re-printing of two volumes is now desirable, and of two others only a small number of copies remain. Subscriptions of any amount are therefore earnestly solicited, and all such will be acknowledged by the *Permanent Secretary*, by letter, and also in a printed list of subscribers. The Secretary has the pleasure of stating that $204 have already been received from members for this purpose, and that GEN. WM. LILLY has given $1000 for the re-printing and stereotyping of volume 26, copies of which will be ready for delivery early in September. The Permanent Secretary has the pleasure to add that a member who wishes to be unknown has given $850 since the Montreal meeting begun.

The CINCINNATI VOLUME has been sent to every member who paid the assessment to the meeting previous to August 17th. Those paying since that date, and those paying back-assessments at Montreal, will receive the volumes to which they are entitled by mail early in September.

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MORNING.

Meeting of the STANDING COMMITTEE at 9 o'clock at the Windsor Hotel.

GENERAL SESSION in the Molson Hall at 10 o'clock.

Election of Members.

Election of Officers.

Meetings of the SECTIONS after adjournment of General Session.

AFTERNOON.

Recess for Lunch, from 1 to 2-30 o'clock.

Excursions.

EVENING.

GENERAL SESSION at 8.30 o'clock in the Molson Hall.—General business; Election of Members; Closing Exercises and adjournment of the Meeting.

NOTICE.—The Association yesterday voted to meet at Minneapolis on the third Wednesday in August, 1883.

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THE SECTIONS.

SECTION A.—MATHEMATICS AND ASTRONOMY.

(Will meet in Room 3, Second Floor, Presbyterian College.)
Vice-President.—W. A. ROGERS, of Cambridge.
Secretary.—H. T. EDDY, of Cincinnati.

Sectional Committee.

W. A. Rogers, of Cambridge; H. T. Eddy, of Cincinnati; G. W. Hill, of Washington; Leonard Waldo, of New Haven; C. A. Young, of Princeton.

ADJOURNED TUESDAY EVENING.

SECTION B.—PHYSICS.

(Will meet in Library, First Floor, Presbyterian College.)
Vice-President.—T. C. MENDENHALL, of Columbus.
Secretary.—CHARLES S. HASTINGS, of Baltimore.

Sectional Committee.

T. C. MENDENHALL, of Columbus.
CHARLES S. HASTINGS, of Baltimore.
C. K. WEAD, of Ann Arbor.
A. E. DOLBEAR, of College Hill.
H. A. ROWLAND, of Baltimore.

ADJOURNED TUESDAY EVENING.

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SECTION C.—CHEMISTRY.

(Will meet in Chemical Class Room, First Floor, Centre Building.)
Vice-President.—H. C. BOLTON, of Hartford.
Secretary.—ALFRED SPRINGER, of Cincinnati.

Sectional Committee.

H. C. Bolton, of Hartford; Alfred Springer, of Cincinnati; Geo. C. Caldwell, of Ithaca; Robert C. Kedzie, of Lansing; E. W. Morley, of Hudson.

ADJOURNED TUESDAY EVENING.

SECTION D.—MECHANICAL SCIENCE.

(Will meet in Class Room No. 15, Second Floor, Centre Building.)
Vice-President.—W. P. TROWBRIDGE, of New Haven.
Secretary.—J. BURKITT WEBB, of Ithaca.

Sectional Committee.

W. P. TROWBRIDGE, of New Haven.
J. B. WEBB, of Ithaca.

ADJOURNED TUESDAY EVENING.

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SECTION E.—GEOLOGY AND GEOGRAPHY.

(Will meet in Theatre Room in Museum.)

Vice-President.—E. T. COX, of San Francisco.

Secretary.—H. S. WILLIAMS, of Ithaca.

Sectional Committee.

E T. COX, of San Francisco; H. S. WILLIAMS, of Ithaca; C. H. HITCHCOCK of Hanover; N. H. WINCHELL, of Minneapolis; E. T. NELSON, of Delaware.

PAPERS TO BE READ IN SECTION E.—WEDNESDAY.

1 (106) Note on the exterior markings of bark of Lepidodendron chemungense. 15 m. E W. CLAYPOLE.

2 (107) On Amphicoelia cedarvillensis from the Niagara group of Cedarville, Ohio. 10 m. E. W. CLAYPOLE.

3 (108) Note on the Fauna of the Catskill Red Sandstone. 20 m. E. W. CLAYPOLE.

4 (119) A Rocking Stone in New York city, 5 m. CHAS. H. GRAHAM.

5. (135) Occurrence of Magnetic ore deposits in Victoria County, Ontario. m. W. HAMILTON MERRITT.

6. (136) The Undulations of the Rock-masses across Central New York State. 15 m. HENRY S. WILLIAMS.

7. (162) Suggestions as to the History of the Lower Coal measures of Ohio. 20 m. EDWARD ORTON.

8. (171) The Glacial Flood of the Connecticut River Valley. 15 m. C. H. HITCHCOCK.

9 (188) Some mooted points in American Geology. — m, J. S. NEWBERRY.

10. (190) Currents of Air and Ocean in connection with climate; regions of summer rains and summer droughts. 15 m. J. BEAUFORT HURLBERT.

11. (206) Subterranean Map-making, with new maps of Mammoth and Luray Caves. 20 m. HORACE C. HOVEY.

12. (38) Law of Fracture or Fissuring, applied to Inorganic and Organic matter. 20 m. RICHARD OWEN.

13. (144) The Caves of Staffa and their relation to the ancient civilization of Iona. 15 m. F. COPE WHITEHOUSE.

14. (250) On the association of crystals of Quartz and Calcite in parallel position. 10 m. R. B. HARE.

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SECTION F.—BIOLOGY.

(Will meet in Room No. 2, in Museum.)

Vice-President.—W. H. DALL, of Washington.

Secretary.—WILLIAM OSLER, of Montreal.

Sectional Committee.

W. H. Dall, of Washington; William Osler, of Montreal: J. A. Lintner, of Albany; W. J. Beal, of Lansing; H. F. Bassett, of Waterbury.

ADJOURNED TUESDAY EVENING.

SECTION G.—HISTOLOGY AND MICROSCOPY.

(Will meet in Room No. 3, in Museum.)

Vice-President.—A. H. TUTTLE, of Columbus.

Secretary.—ROBERT BROWN, Jr., of New Haven.

Sectional Committee.

A. H. Tuttle, of Columbus; Robt. Brown, Jr., of New Haven; A B. Hervey, of Taunton; Louis Elsberg, of New York; Romyn Hitchcock, of New York.

ADJOURNED TUESDAY EVENING.

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SECTION H.—ANTHROPOLOGY.

(Will meet in the Molson Hall, Centre Building.)

Vice-President—ALEXANDER WINCHELL, of Ann Arbor, Mich.
Secretary.—OTIS T. MASON, of Washington.

Sectional Committee.

Alexander Vinchell, of Ann Arbor; Otis T. Mason, of Washington; A. S. Bickmore, of New York; Garrick Mallery, of Washington; N. S. Townshend, of Columbus.

PAPERS TO BE READ IN SECTION H.—WEDNESDAY.

1. (247) A "find" of chipped stone articles on the Pacific Coast and Exhibition of the Specimen. 5 m.
H. N. RUST.
2. (248) Remarks upon the Davenport Tablet. 10 m. H. N. RUST.
3. (55) Monumental and Art Remains in the Lake Regions of Ohio, Pennsylvania and New York. 30 m
WILLS DEHASS.
4. (243) Influence of climate of Canada on Europeans. 15 m.
WM. H. HINGSTON.
5. (225) A few deductions from Dictionary of the Tuscarora dialect. 10 m. Mrs. E. A. SMITH.
6. (57) Mountain Antiquities. 10 m. WILLS DEHASS.
7. (125) The Bleaching of the Aryans. 17 m.
MISS VIRGINIA K. BOWERS.
8. (58) Geological Testimony to the Antiquity of Man in America. 40 m. WILLS DEHASS,
9. (56) Archæological Exploration; progress of discovery. 35 m.
WILLS DEHASS.

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SECTION I.—ECONOMIC SCIENCE AND STATISTICS.

(Will meet in French Class Room, Second Floor, Centre Building.)

Vice-President.—E. B. ELLIOTT, of Washington.

Secretary.—F. B. HOUGH, of Lowville.

Sectional Committee.

E. B. ELLIOTT, of Washington; F. B. HOUGH, of Lowville: JOSEPH CUMMINGS, Evanston; JOHN EATON, of Washington.

PAPERS TO BE READ IN SECTION I.—WEDNESDAY.

Several papers are to be read, which will be announced in the section.

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OFFICERS

recommended by the Nominating Committee for the Minneapolis Meeting:

PRESIDENT:

C. A. YOUNG, of Princeton.

VICE-PRESIDENTS:

Section A. W. A. ROGERS, of Cambridge.
" B. H. A. ROWLAND, of Baltimore.
" C. EDWARD W. MORLEY, of Cleveland.
" D. DE VOLSON WOOD, of Hoboken.
" E. C. H. HITCHCOCK, of Hanover.
" F. W. J. BEALE, of Lansing.
" G. J. D. COX, of Cincinnati.
" H. O. T. MASON, of Washington.
" I. F. B. HOUGH, of Lowville.

GENERAL SECRETARY:

J. R. EASTMAN, of Washington.

ASSISTANT GENERAL SECRETARY:

ALFRED SPRINGER, of Cincinnati.

SECRETARIES OF THE SECTIONS:

Section A. W. W. JOHNSON, Annapolis.
" B. C. K. WEAD, Ann Arbor.
" C. J. W. LANGLEY, Ann Arbor
" D. A. J. DUBOIS, New Haven.
" E. ALEXIS A. JULIEN, New York.
" F. S. A. FORBES, Normal.
" G. CARL SEILER, Philadelphia.
" H. G. H. PERKINS, Burlington.
" I. JOSEPH CUMMINGS, Evanston.

TREASURER:

WILLIAM LILLY, of Mauch Chunk.

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LIST OF FELLOWS.

ELECTED AUGUST 29th.

Allen, Harrison, Philadelphia, Pa.
Alvord, Henry E., Easthampton, Mass.
Ashburner, Wm., San Francisco, Cal.
Atwater, W. O., Middletown, Ct.
Baker, Marcus, Washington, D.C.
Bartlett, J. R., Washington, D.C.
Blair, Henry W., Washington, D.C.
Borden, Spencer, Fall River, Mass.
Britton, N. L., New Dorp, N.Y.
Burrill, T. J., Champaign, Ill.
Call, R. Ellsworth, Des Moines, Ia.
Chamberlain, Wm. J., Columbus, O.
Chance, H. Martyn, Philadelphia, Pa.
Chandler, Seth C. Jr., Cambridge, Mass.
Chester, Albert H., Clinton, N.Y.
Chittenden, Russell H., New Haven, Conn.
Claypole, Edw. W., Yellow Springs, O.
Collier, Peter, Washington, D.C.
Comstock, J. Henry, Ithaca, N.Y.
Dabney, Chas. W. Jr., Raleigh, N.C.
DuBois, Aug. J., New Haven, Ct.
Dudley, Chas. B., Altoona, Pa.
Dwight, Wm. B., Poughkeepsie, N.Y.
Edwards, Wm. H., Coalburg, W. Va.
Flint, James M., Boston, Mass.
Frazier, B. W., Bethlehem, Pa.
Fuller, A. S., Ridgewood, N.J.
Gatschet, A. S., Washington, D.C.
Hale, Horatio, Clinton, Ont.

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Hazen, W. B., Washington, D.C.
Himes, Chas. F., Carlisle, Pa.
Hodges, N. D. C., Salem, Mass.
James, Jos. F., Cincinnati, O.
Jewell, Theo. F., Newport, R.I.
Kendall, E. Otis, Philadelphia, Pa.
Kennan, George, Washington, D.C.
Langdon, F. W., Cincinnati, O.
Lanza, Gaetano, Boston, Mass.
Lazenby, Wm. R., Columbus, O.
Lilly, William, Mauch Chunk, Pa.
Love, Edw. G., New York, N.Y.
Macfarlane, James, Towanda, Pa.
Macloskie, George, Princeton, N.J.
McGee, W. J., Farley, Iowa.
McNair, A. R., Saratoga Springs, N.Y.
Mixter, Wm., G, New Haven, Ct.
Neale, Arthur T., New Brunswick, N.J.
Nelson, A. B., Danville, Ky.
Peirce, C. S., Baltimore, Md.
Penhallow, D. P., Mountainville, N.Y.
Perkins, Geo. H., Burlington, Vt.
Pilling, James C., Washington, D.C.
Platt, Franklin, Phlidelphia, Pa.
Prentiss, D. Webster. Washington, D.C.
Reed, E. B., London, Ont.
Rockwell, A. P., Boston, Mass.
Ross, Waldo O., Boston, Mass.
Russell, J. C., Salt Lake City, Utah.
Schanck, J. Stilwell, Princeton, N.J.
Seiler, Carl, Philadelphia, Pa.
Sestini, B., Woodstock, Md.
Sigsbee, Chas. B., Washington, D.C.
Smith, Edwin, Washington, D.C.
Snyder, Monroe B., Philadelphia, Pa.
Spencer, Jas. Wm., Windsor, N.S.

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Stallo, J. B., Cincinnati, O.
Stevens, W. Leconte, New York, N.Y.
Stone, George H., Colorado Springs, Col.
Sturtevant, E. Lewis, South Framingham, Mass.
Swift, Lewis, Rochester, N.Y.
Taylor, Arthur F., Cleveland, O.
Thomas, Benj. F., Columbia, Mo.
Thomas, Cyrus, Carbondale, Ill.
True, Fred. W., Washington, D.C.
Trumbull, J. H., Hartford, Conn.
Van Dyck, Francis C., New Brunswick, N.J.
Walcott, Chas. D., Washington, D.C.
Wallace, William, Ansonia, Conn.
Warren, Cyrus M., Brookline, Mass.
Webster, H. E., Schenectady, N.Y.
Wharton, Joseph, Philadelphia, Pa.
Wheeler, Orlando B., Detroit, Mich.
White, I. C., Morgantown, W. Va.
Williams, H. S., Ithaca, N.Y.
Winsor, Justin, Cambridge, Mass.
Wright, Geo. F., Oberlin, Ohio.
Zentmayer, Joseph, Philadelphia, Pa.

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MEMBERS ELECTED.

AUGUST 23rd.

1 Col. James W. Abert, Newport, Ky.
2 U. E. Archambault, Montreal.
3 Rev. Wm. D. Armstrong, Ottawa, O.
4 Miss Mary Austin, Milton, Mass.
5 Frank Baker, M. D., 366 C. St. Washington, D. C.
6 Prof. Philip S. Baker, Ashbury University, Greencastle, Ind.
7 Miss Mary A. Baldwin, Newark, N. J.
8 H. Ballard, Principal, Lenox Academy, Lenox, Mass.
9 Charles H. Banes, Philadelphia, Pa.
10 Martha M. Barker, Lowell, Mass.
11 Henry Barnard, Hartford, Conn.
12 F. Foster Bateman, Montreal.
13 Pierre Janvier Ubalde Baudry, Beauharnois, P. Q.
14 Delos W. Beadle, St. Catharines, Ont.
15 Thomas Beall, Lindsay, Ont.
16 J. Alphonse U. Beaudry, C. E., Montreal, P. Q.
17 Alexander Melville Bell, Georgetown, D. C.
18 Chichester A. Bell, Washington, D.C.
19 Mrs. Albert S. Bickmore, New York.
20 George John Bowles, Montreal.
21 Milton H. Brissitte, Montreal.
22 Prof. C. J. Brown, Chamberlain Institute, Randolph, N.Y.
23 Prof. William H. Burr, Troy, N.Y.
24 Lt.-Comdr. Albert G. Caldwell, Torpedo Station, Newport, R.I.
25 H. L. Cargill, Montreal.
26 Charles Carpmael, Director of Magnetic Observatory, Toronto, Ont.
27 John Healey Childe, Boston, Mass.
28 Prof. John Mason Clarke, Smith College, Northampton, Mass.
29 Miss Cornelia M. Clapp, South Hadley, Mass.
30 Amory Coffin, Phœnixville, Pa.
31 Miss Emma Oberin Conro, Keesville, N.Y.
32 Dr. B. E. Cotting, Roxbury, Mass.
33 Francis William Crosby, Washington, D.C.
34 Hon. Rodney R. Crowley, Randolph, N.Y.
35 Miss Elizabeth Curtis, Boston, Mass.
36 Abijah Curtiss, Yonkers, New York.
37 Peter C. Dempsey, Trenton, Ont.
38 Wm. H. Dennis, Assist. U. S. Coast and Geodetic Survey, Washington, D.C.
39 John M. Denton, London, Ontario.
40 J. Richards Dodge, Dept. Agriculture, Washington, D.C.
41 Rev. James Owen Dorsey, Bureau of Ethnology, Washington, D.C.
42 Andrew E. Douglas, New York.
43 Walter Angus Dun, M. D., London, England.
44 Richard J. Dunglison, M. D., Philadelphia, Penn.
45 Robert G. Eccles, M.D., Brooklyn, N.Y
46 President J. T. Edwards, Chamberlain Institute, Randolph, N.Y.
47 William Cole Esty, Amherst College, Amherst, Mass.
48 Frank H. Fairfield, Amherst, Mass.
49 A. G. Fenwick, M.D., London, Ont.
50 Bernhard E. Fernow, Slatington, Penn.
51 James Ferrier, Jr., Montreal.
52 Walter F. Ferrier, Montreal.
53 Sanford Fleming, Chancellor of the Queen's University. Ottawa, Ont.
54 James Fletcher, Library of Parliament, Ottawa, Ontario.
55 Wm. W. Folwell, Minneapolis, Minn.
56 Cyrus G. Force, Jr., Cleveland, Ohio.
57 Rev. T. W. Fyles, Cowansville, P.Q.
58 Benjamin D. Gilbert, Utica, N.Y.
59 H. D. Garrison, Chicago, Ill.
60 Stephen Samuel Haight, New York, N.Y.
61 Miss Mary Hale, Roxbury, Mass.
62 R. G. Haliburton, Ottawa, Ont.
63 Lyman B. Hall, Haverford College, Penn.
64 Albert P. Hallock, New York, N.Y.
65 Henry Harding, Salem, Mass.
66 Miss A. Maria Harmon, Ottawa, Ont.
67 Dr. P. L. Hatch, Minneapolis, Minn.
68 Henry Hemming, Finance Department. Quebec.
69 N. H. Hemiup, Minneapolis, Minn.
70 F. H. Herrick, Burlington, Vermont.
71 Charles N. Hewitt, Minneapolis, Minn.
72 Prof. Lewis E. Hicks, Denison University, Granville, Ohio.
73 John S. Hicks, Roslyn, N.Y.
74 Joseph Lawrence Hills, South Boston, Mass.
75 Miss Mary H. Hinckley, Milton, Mass.
76 Arthur Hollick, New Brighton, N.Y.
77 Miss Rose Hollingsworth, Milton, Mass,
78 Joseph Holt, M.D., New Orleans, La.
79 Geo. Henry Hudson, Plattsburgh, N.Y.
80 Ray Greene Huling, Fitchburg, Mass.

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81 Charles W. Hutchinson, Utica, N.Y.
82 George Iles, Montreal.
83 John G. Jack, Chateauguay Basin, Que.
84 Mrs. Isabella James, Cambridge, Mass.
85 Louis C. Jones, Hartford, Conn.
86 William Schuyler Johnson, Washington, D.C.
87 Prof. James Kirkland, Toronto, Ontario.
88 Dr. Isidore Kitzie, Cincinnati, Ohio.
89 Miss Elizabeth G. Knight, New York, N. Y.
90 J. C. Lathrop, Bridgeport, Conn.
91 L. A. Huguet-Latour, Montreal.
92 Prof. George Lawson, Dalhousie College, Halifax, Nova Scotia.
93 Prof. Geo. Dudley Lawson, Cambridge, Mass.
94 Edward W. Lee, M.D., Randolph, N. Y.
95 Joseph Libbey, Georgetown, D. C.
96 Mrs. Rachel Lloyd, Louisville, Ky.
97 Horatio Loomis, Burlington Vt.
98 Prof. Thomas R. Lounsbury, Yale College, New Haven, Conn.
99 Joseph L'Etoile, Dept. Interior, Quebec.
100 John W. Lovell, New York, N. Y.
101 Albert Lufkin, Newton, Iowa.
102 Prof. Louis L. McInnis, College Station, Texas.
103 W. H. Manning, Reading, Mass.
194 Prof. Wm. J. Martin, Davidson College, N. C.
105 Prof. Samuel T. Maynard, Mass. Agriculture College, Amherst, Mass.
106 W. Hamilton Merritt, Toronto, Ont.
107 Capt. James H. Merryman, U.S.R.M., New York.
108 President James Mills, Ontario, Agricultural College, Guelph, Ontario.
109 T. Wesley Mills, Montreal.
110 William Hamilton Mills, Hamilton, Ont.
111 Mrs. Mary E. Morgan, Rochester, N.Y.
112 Charles J. Morse, Youngstown, Ohio.
113 Capt. John H. Mortimer.
114 William Muir, Montreal,
115 John P. Munn, M.D., New York, N.Y.
116 Henry M. Newington, St. Louis, Mo.
117 Stephen Prendergast, Phœnix, N. Y.
118 Arthur Perkins, Hartford, Conn.
119 George Phelps, Nashua, N. H.
120 Dr. Cyrus Newlin Pierce, Media, Penn.
121 Louis H. Pignold, Montreal.
122 Prof. Johnson T. Platt, Yale College, New Haven, Conn.
123 Frederick B. Power, Ph. D., Philadeldelphia, Pa.
124 Prof. George D. Purinton, University of Des Moines, Des Moines, Iowa.
125 John Stephen Renninger, M. D., Minneota, Minnesota.
126 Edgar Richards, Washington, D. C.
127 Bates S. Rideout, Lewiston, Maine.
128 Mrs. Susan Riley, Mobile, Alabama.
129 Thomas S. Roberts, Minneapolis, Maine.
130 Thomas P. N. Rogers, Burlington, Vt.
131 Rev. James Roy, Montreal.
132 Prof. Alvah Horton Sabine, University of Vermont, Burlington, Vermont.
133 Mary Jane Safford, M.D., Boston, Mass.
134 Daniel Elmer Salmon, Asheville, N. C.
135 J. W. Sanborn, Hanover, N. H.
136 George H. Seyms, Hartford, Conn.
137 Chas. S. Shultz, Hoboken, New Jersey.
138 Dr. Hrbt. E. Smith, New Haven, Conn.
139 Miss Marian M. Smead, Batavia, N. Y.
140 Marcell N. Smith, Boston, Mass.
141 Thomas H. Smith, Chicago, Ill.
142 Miss Augusta J. Solomons, Sumter, S.C.
143 Miss Kate C. Solomons, Sumter, S.C.
144 Miss Maude Cohen Solomons, Sumter, S. C.
145 Jas. H. Stibbins, Jr., New York, N.Y.
146 Horace Ed. Stockbridge, Amherst, Mass.
147 Levi Stockbridge, Amherst, Mass.
148 Lincoln R. Stone, M.D., Newton, Mass.
149 Jacob H. Studer, Columbus, Ohio.
150 Frederick William Taylor, Smithsonian Institution, Washington, D.C.
151 J. E. Thompson, Spalding, Mich.
152 Herbert G. Torrey, New York, N.Y.
153 C. W. Volney, Mott Haven, N.Y.
154 Prof. Carl Warnecke, Montreal.
155 Joseph W. Warren, Harvard Medical School, Boston, Mass.
156 John Hosea Washburn, Bridgewater, Mass.
157 Miss C. A. Watson, Salem, Mass.
158 Prof. J. Burkitt Webb, Cornell University, Ithaca, N.Y.
159 Hon. Jos. E. Weeden, Randolph, N.Y.
160 Arthur W. West, Salem, Mass.
161 Alice Walker Wheildon, Concord, Mass.
162 J. F. Whiteaves, Geological Survey, Ottawa, Ontario.
163 F. Cope Whitehouse, New York, N.Y.
164 Prof. Sarah F. Whiting, Wellesley College, Wellesley, Mass.
165 Francis Augustus Wilber, New Brunswick, N.J.
166 J. Francis Williams, Salem, N.Y.
167 Janet Webster Williams, Newton, Lower Falls, Mass.
168 Miss Hannah S. Wingate, Brooklyn, N.Y.
169 Thomas Fanning Wood, M.D., Wilmington, N.C.

169, in addition to the Members of the Local Committee.

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AUGUST 24th.

170 L. W. Andrews, Springfield, Mass.
171 Oscar Atwood, Rutland, Vermont.
172 Prof. Brown Ayres, University of Louisiana, New Orleans.
173 Thomas D. Bell, Montreal.
174 Abraham D. Balen, Plainfield, N. J.
175 Lieut. Commander Royal B. Bradford, Torpedo Station, Newport, R. I.
176 Arthur Brown, Oakland, California.
177 Fred Gardip Brown, Rutland, Vt.
178 John Bull, Washington.
179 Jeffrey Hale Burland, Montreal.
180 L'Abbe Joseph Chabert, Montreal.
181 John S. Clark, Boston.
182 Richard T. Colburn, Elizabeth, N. J.
183 J. J. Davis, M.D., Racine, Wisconsin.
184 L. M. Dayton, Cincinnati.
185 Edward Dummer, Boston.
186 Henry Lee Farr, Rutland, Vt.
187 Mrs. Marion T. Fortescue, New York.
188 William L. Garrett, New York.
189 Thomas W. Gleeson, Boston.
190 Dr. R. P. Greenleaf, Henry Clay P. O., Delaware.
191 Thomas A. Greene, Milwaukee, Wis.
192 Rev. Colborne Heine, Montreal.
193 Clarence L. Herrick, Minneapolis, Min.
194 L. M. Holstein, Belvidere, N.J.
195 Henry F. Homes, Albany, N. Y.
196 Allen B. Howe, New Haven, Conn.
197 Edward Hungerford, Burlington, Vt.
198 Joseph P. Iddings, U. S. Geological Survey, Orange, N. J.
199 Hiram U. King, Stamford, Conn.
200 Dr. Henry S. Leffernan, Philadelphia.
201 W. H. Lynch, Danville, P.Q.
202 Joseph Russel Marble, Worcester, Mass.
203 James Millan McLarty, Boston.
204 MacGregor J. Mitcheson, Philadelphia.
205 Alvin H. Moore, Magog, P.Q.
206 Miss Anna Morton, Chicago, Ill.
207 Oliver D. Norton, M.D., Cincinnati.
208 Prof. D. B. Purinton, W. Va. State University, Morgantown, W. Va.
209 Prof. C. H. Pettee, New Hampshire Coll. Agriculture, Hanover, N.H.
210 Dr. A. M. Phelps, Chateaugay, N.Y.
211 Alexander Proudfoot, M.D., Montreal.
212 Robert A. Ramsay, Montreal.
213 Dr. Sampson P. Robins, Hochelaga, P.Q.
214 Jeremiah W. Sanborn, Columbia, Mo.
215 Prof. M. P. Scott, Blacksburg, Virginia.
216 Henry M. Seeley, Middleburg, Vt.
217 Capt. Thomas A. Selfridge, U. S. Navy Torpedo Station, Newport, R. I.
218 William W. Share, Brooklyn, N. Y.
219 Wyllis Augustus Silliman, Clarkson, N.Y.
220 Mrs. A. B. Smith, St. Albans, Vt.
221 Herbert Eugene Smith, Hartford, Conn.
222 Mrs. Ellen M. P. Stone, Providence, R.I.
223 Henry Stone, New York.
224 Rev. James A. B. Stone, Detroit, Mich.
225 Prof. William Strieby, Colorado College, Colorado Springs.
226 William A. Stiles, Deckertown, N. J.
227 Joseph Townsend, Durham, Ontario.
228 James Troop, Lansing, Mich.
229 Mrs. Charlotte Fowler Wells, New York
230 John Wanless, M.D., Montreal.

AUGUST, 25th.

231 J. C. Alling, Albert Lea, Minnesota.
232 Capt. Robert Chamblet Adams, Montreal.
233 Joseph Bemrose, Montreal.
234 C. H. DuBois, Minneapolis.
235 Miss Anne Brown, Cincinnati.
236 Jeffrey Hale Burland, Montreal.
237 Mrs. W. H. Chapman, New York.
238 Mrs. Marine J. Chase, Philadelphia.
239 Frederick Cole, Montreal.
240 Dr. J. A. Crevier, Montreal.
241 Surgeon Dwight Dicksonson. U.S.N., Washington.
242 Mrs. A. S. Diven, Elmira, N. Y.
243 Ignatius Donnelly, Litchfield, Min.
244 Capt. John M. Dow, New York.
245 Dr. Chas. R. Dryer, Fort Wayne, Ind.
246 Dr. Louis Lane Dunbar, San Francisco, Cal.
247 Prof. Gilbert P. Girdwood, McGill College, Montreal.
248 Horace Hatch, M.D., Washington.
249 C. L. Herrick, Minneapolis, Minn.
250 Miss Susan Hetzel, Clifton, Va.
251 Sarah E. Hibbard, Montreal.
252 Silas W. Holman, Boston, Mass.
253 Major Jed. Hotchkiss, Staunton, Va.
254 Prof. David S. Jordan, Indiana State University, Bloomington, Indiana.
255 David S. Kellicott, Buffalo, N. Y.
256 John Kennedy, Montreal.
257 Wm. H. Lennon, Brookport, N. Y.
258 Dr. G. W. Major, Montreal.
259 Mendenhall, Minneapolis, Minn.

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260 Dr. H. L. Morse, Boston.
261 Henry Mott, Montreal.
262 Edward Murphy, Montreal.
263 A. B. Nettleton, Minneapolis.
264 Oliver D. Norton, M.D., Cincinnati.
265 Frederick A. Ober, Beverly, Mass.
266 Prof. Marshal Oliver, U. S. Navy, Annapolis, Md.
267 Joseph B. F. Osgood, Salem, Mass.
268 Frank Allen Owen, Burlington, Vt.
269 William Reed, Hartford City, Ind.
270 W. G. Sargent, Sargentville, Maine.
271 Prof. J. O. Stillson, Evansville, Ind.
272 Rev. E. R. Stinson, Toronto.
273 A. P. Southwick, Norfolk, Va.
274 Carlisle Terry, M.D., Columbus, Ga.
275 Mrs. Joseph Tiffin, jr., Montreal.
276 Edward Royall Tyler, Washington.
277 Frederick C. Valentine, New York.
278 Hulbert H. Warner, Rochester, N.Y.
279 Dr. Charles Warren, Washington.
280 Ralph C. Woolworth, San Francisco.
281 Mrs. Ralph C. Woolworth, San Francisco.
282 Eliza Wright, Boston.

AUGUST 28th.

283 William Angus, Montreal.
284 Professor T. M. Blakslee, Harpersville, N.Y.
285 Thomas Cowdry, M.D., Toronto.
286 Andrew T. Drummond, Montreal.
287 Lois R. Frothingham, Milton, Mass.
288 Hugh Graham, Montreal.
289 Charles Latimer, Cleveland, Ohio.
920 William Little, Montreal.
291 Dr. Wm. P. Mason, Troy, N.Y.
292 Calvin S. Mixter, Washington. D.C.
293 J. S. Phene, London, England.
294 Ida F. Robbins, Arlington, Mass.
295 Charles S. Starr, M.D., Rochester, N.Y.
296 Geo. B. Sennett, Meadville, Penn.
297 Rev. Prof. Wiltshire, London, England.
298 Mrs. Wiltshire, London, England.
299 Walter H. Weed, New York.

AUGUST 29th.

300 Dr. E. B. Ames, Minneapolis, Minn.
301 Past-Assist. Surgeon Beyer, Washington.
302 Lieut.-Comd. W. H. Bronson, Washington.
303 E. H. Bronson, Ottawa, Ont.
304 Richard Wm. Cowan, Montreal.
305 Prof. Henry P. Emerson, Buffalo, N. Y.
306 S. B. Foster, Montreal.
307 Charles Garth, Montreal.
308 Herbert R. Ives, Montreal.
309 R. D. Lacoe, Pittston, Pa.
310 Æneus McMaster, Scottstown, Quebec.
311 Dr. Morell Mackenzie, London, Eng.
312 Miss Helen P. Morehouse, Buffalo, N.Y.
313 David A. P. Watt, Montreal.
314 Warren H. Upham, Minneapolis.

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REGISTER OF ARRIVALS.

AUGUST 23, 1882.

No	Name.	Permanent Residence.	Residence during the Meeting.
1	G. F. Barker	Philadelphia, Pa	130 Mackay Street.
2	Mrs. Barker	do	do
3	Miss Barker	do	do
4	R. G. Huling	Fitchburg, Mass	do
5	Mrs. Huling	do	do
6	S. B. Paine	Fall River, Mass	do
7	P. V. Williams	Watertown, N. Y	St. Lawrence Hall.
8	S. M. Hedges	Boston, Mass	1431 St. Catherine St.
9	Mrs. Hedges	do	do
0	Miss E. M. Hedges	do	do
1	D. W. Beadle	St. Catharines, Ont	168 Mance Street.
2	Mrs. Beadle	do	do
3	Miss S. E. Beadle	do	do
4	W. D. Boardman	Roxbury, Mass	1431 St. Catherine St.
5	Mrs. Boardman	do	do
6	Miss M. H. Hinckley	Milton, Mass	King Street
7	Miss M. Austin	do	do
8	Miss R. Hollingsworth	do	22 Cathcart Street.
9	Mrs. P. R. Hollingsworth	do	do
0	J. W. Dawson	Montreal	McGill College.
1	N. H. Winchell	Minneapolis, Minn	Windsor Hotel.
2	E. T. Cox	San Francisco, Cal	do
3	W. F. Ferrier	Montreal	144 Metcalfe Street.
4	J. Ferrier, jr.	do	do
5	Miss C. A. Watson	Salem, Mass	Windsor Annex.
6	Miss Sarah E. Hunt	do	do
7	Miss A. L. Page	do	do
8	Mrs. C. H. Dall	Washington, D. C	107 Union Avenue.
9	A. E. Foote	Philadelphia, Pa	1531 St. Catherine St.
0	G. J. Brush	New Haven, Conn	Windsor Hotel.
1	Mrs. Brush	do	do
2	C. W. Smiley	Washington, D.C	———
3	W. H. Stephens	Louisville, N. Y	St. Lawrence Hall.
4	H. S. Williams	Ithaca, N. Y	273 Bleury Street.
5	John Hagemann	Cincinnati, Ohio	Windsor Hotel.
6	J. F. James	do	824 Ontario Street.
7	Miss E. W. James	do	do
8	Miss A. James	do	do
9	A. E. Highways	do	903 Sherbrooke Street.
0	H. C. Bolton	Hartford, Conn	Windsor Hotel.
1	Mrs. Jackson Bolton	do	do
2	C. H. Rockwell	Tarrytown, N.Y	211 Peel Street.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
43	P. Mohr	Cincinnati, Ohio	28 St. Denis Street.
44	Miss E. Mohr	do	do
45	Miss M. Mohr	do	do
46	Joseph Szabo	Buda-Pesth, Hungary	256 University Street.
47	John Fallon	Lawrence, Mass	40 Osborne Street.
48	H. S. Jewett	Dayton, Ohio	62 Cathedral Street.
49	T. Sterry Hunt	Montreal	256 University Street.
50	J. L'Etoile	Ottawa	Eagle Hotel.
51	W. W. Tracey	Detroit, Mich	American House.
52	D. P. Penhallow	Mountainville, N. Y	58 Drummond Street.
53	Mrs. J. James	Cambridge, Mass	do
54	Miss F. B. James	do	do
55	Mrs. Dawson	Montreal	McGill College.
56	Miss Wilson	Toronto	
57	Miss Dawson	Montreal	do
58	Miss C. Crow		do
59	T. J. Burrill	Champaign, Ill	———
60	F. W. Putnam	Cambridge, Mass	Windsor Hotel.
61	Miss Alice E. Putnam	do	Windsor Annex.
62	W. E. Archambault	Montreal	846 Ontario Street.
63	Daniel Draper	New York, N.Y	1325 St. Catherine St.
94	E. H. Dixon	Hastings-on-Hudson	do
65	J. M. Edwards	Marlboro, Mass	273 Bleury Street.
66	Mrs. Edwards	do	do
67	Rev. James Roy	Montreal	1464 St. Catherine St.
68	Mrs. Roy	do	do
69	Miss Roy	do	do
70	Miss J. Roy	do	do
71	E. A. Cook	Bristol, Eng	31 McTavish Street.
72	Mrs. Z. D. Butcher	Washington, D. C	———
73	Miss R. Freeland	do	———
74	James Hyatt	Stanfordville, N.Y	———
75	D. W. Kowalesky	Moscow, Russia	295 Upper University St.
76	Alfred Springer	Cincinnati, Ohio	758 Dorchester Street.
77	Miss Cora Elsas	do	do
78	O. T. Mason	Washington, D. C	Diocesan College.
79	Mrs. Martha J. Lamb	New York City	101 Metcalfe Street.
80	H. B. Nason	Troy, N.Y	Windsor Hotel.
81	Mrs. Nason	do	do
82	J. F. Williams	Salem, N. Y	do
83	C. V. Riley	Washington, D. C	Windsor Annex.
84	Miss N. Lafargue	do	do
85	A. W. Wheildon	Concord, Mass	———
86	J. B. Edwards	Montreal	55 Radegonde Street.
87	J. A. W. Beaudry	do	635 Ontario Street.
88	L. A. H. Latour	do	36 McGill College Avenue
89	E. L. Sturtevant	Geneva, N. Y	Windsor Hotel.
0	James Mills	Guelph	1465 St. Catherine St.
91	Mrs. Mills	do	do
92	John Thorburn	Ottawa	St. Lawrence Hall.
93	Thomas Kirkland	Toronto	McGill College.
94	Geo. H. Cook	New Brunswick, N. J	144 Metcalfe Street.
95	Miss A. B. Cook	do	do
96	Miss E. W. Cook	do	do
97	Mrs. A. B. Cook	Holmdel, N. J	38 Victoria Street.
98	J. E. Cook	Hanover, N. J	do

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No.	Name.	Permanent Residence	Residence during the Meeting.
99	W. H. H. Russell	St. Louis, Mo	Windsor Hotel.
100	M. H. Brissette	Montreal, P. Q	Montreal.
101	Charlotte S. Tower	do	———
102	Mrs. J. Ferrier	Lexington, Mass	144 Metcalfe Street.
103	J. O. Dorsey	Washington, D. C	108 Stanley Street.
104	Miss M. Bowles	Columbia, Tenn	903 Sherbrooke Street.
105	Rev. Dr. Houghton	Dublin, Ireland	Windsor Hotel.
106	E. B. Elliott	Washington, D. C	———
107	A. H. Ormsleys	Dublin	Windsor Hotel.
108	Miss E. L. Hamlin	New York, N. Y	35 Tupper Street.
109	H. A. Ward	Rochester, N. Y	47 McGill College Avenue
110	W. L. Dudley	Cincinnati, Ohio	Windsor Hotel.
111	B. D. Gilbert	Utica, N. Y	do
112	Mrs. Charlotte F. Wells	New York, N. Y	27 Windsor Street.
113	Wm. Wallace	Ausonia, Ct	Windsor Hotel.
114	W. S. McCays	Dublin, Ireland	do
115	James Hall	Albany, N. Y	600 Sherbrooke Street.
116	L. F. Ward	Washington, D. C	1394 St. Catherine St.
117	Mrs. Ward	do	do
118	Proff. C. Hertzberg	Brooklyn, L. I	———
119	C. G. Wheeler	Chicago, Ill	Windsor Hotel.
120	Mrs. Wheeler	do	do
121	Wm. Muir	Montreal	1395 St. Catherine St.
122	Mrs. Muir	do	do
123	S. C Caldwell	Ithaca, N. Y	Diocesan College.
124	F. C. Caldwell	do	do
125	John Rae	Kensington, Lndn	290 Mountain Street.
126	H. E. Olbord	Mountainville, N. Y	(31) Windsor Hotel.
127	E. E. Howell	Rochester, N. Y	47 McGill College Avenue
128	F. W. Staebner	do	47 McGill College Avenue
129	Y. P. Bassnett	Jacksonville, Fla	6 Victoria Street.
130	Mrs. Y. Bassnett	do	do
131	Miss H. H. Mays	Georgia, Fla	do
132	Miss M. C. Solomans	Sumter, S. C	903 Sherbrooke Street.
133	Miss Kate Solomans	do	do
134	Miss A. Solomans	do	do
135	J. F. Whiteaves	Ottawa, Ont	St. Lawrence Hall.
136	N. S. Townshead	Columbus, Ohio	New York House.
137	W. R. Lagenby	do	do
138	J. R. Eastman	Washington, D. C	2 and 3 Diocesan College
139	Mrs. J. R. Eastman	do	do
140	S. W. Burnham	Chicago, Ill	City Hotel.
141	H. D. Garrison	do	Albion Hotel.
142	Rev. T. Fyle	Cowansville, P. Q	Diocesan College.
143	A. J. Burnham	Chicago, Ill	City Hotel.
144	John Michels	New York, N. Y	893 Sherbrooke Street.
145	H. Lord	do	903 Sherbrooke Street.
146	Mrs. E. Smith	Jersey City	Windsor Hotel.
147	Chas. Carpmael	Toronto, Ont	———
148	W. H. Dall	Washington, D. C	Diocesan College.
149	Wm. Saunders	London, Ont	Windsor Annex.
150	J. M. Denton	do	———
151	Rev. M. P. Costin	Fordham, N. Y	St. Mary's College, Bleury Street
152	W. P. Trowbridge	New Haven, Ct	Theology College.
153	Mary A. Baldwin	Newark, N. J	101 Metcalfe Street.

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No.	*Name.*	*Permanent Residence.*	*Residence during the Meeting.*
154	Alice Riker	Newark, N. J.	101 Metcalfe street.
155	Chas. Wedl	Vienna	Richelieu Hotel.
156	F. H. Lond	Colorado Springs	Albion Hotel.
157	Mrs. Lond	do	do
158	Mrs. E. M. Wileys	do	do
159	Miss E. N. Hunt	Montreal, P. Q.	256 University Street.
160	Miss M. Hunt	do	do
161	Robt. C. Kedzie	Lansing, Mich.	Richelieu Hotel.
162	W. E. Cutler	Worcester, Mass.	Windsor Hotel.
163	S. W. Johnston	Washington, D. C	58 Drummond Street.
164	Miss. E. B. Johnston	do	do
165	Rev. Dr. Shackelford	New York, N. Y.	21 McGill College Avenue
166	Miss Shackelford	do	do
167	Geo. R. Shackelford	do	do
168	Eliz. P. Shackelford	do	do
169	A. S. Bickmore	do	Windsor Hotel.
170	Mrs. Bickmore	do	do
171	A. E. Douglass	do	do
172	A. S. Gatschet	Washington, D. C	216 Bleury Street.
173	Dr. Fitzgerald	Dublin	do
174	W. H. Hingston	Montreal, P. Q.	37 Union Avenue.
175	Mrs. J. Kirkland		McGill College Obs.
176	S. H. Brackett	St. Johnsbury, Vt	23 Shuter street
177	Alex Graham Bell	Washington, D. C	Windsor Hotel
178	Arthur W. West	Salem, Mass.	1596 St. Catherine street
179	T. C. Mendenhall	Columbus, Ohio	Windsor Hotel
180	Mrs. Mendenhall	do	do
181	Byron D. Halsted	Broadway, N. Y.	American House
182	J. Henry Comstock	Ithaca, N. Y.	1462 St. Catherine street
183	Mrs. Henry Comstock	do	do
184	Miss H. Willets	do	do
185	Miss E. Halbrooke	Alto, N. Y.	do
186	P. W. Clarke	Cincinnati, Ohio	Windsor Hotel
187	Miss Mary Hale	Roxbury, Mass.	———
188	C. P. Gardner	Rochester, N. Y.	49 Mance street
189	Mrs. C. P. Gardner	do	do
190	D. A. Bassett	Crawfordsville, Ind	142½ St. Denis street
191	S. C. Heighway	Cincinnati, Ohio	———
192	John Heywood	Westerville, Ohio,	Richelieu Hotel
193	W. A. Conklin	New York, N. Y.	Windsor Hotel
194	W. Van Valkenburgh	do	do
195	A. H. Worthen	Springfield, Ill.	———
196	Mrs. A. H. Worthen	do	Windsor Hotel
197	E. R. Chadbourn	Lewiston, Me	107 Bleury street
198	W. H. Mills	Hamilton, Ont.	Richelieu Hotel
199	Mrs. W. H. Mills	do	do
200	Winslow Upton	Washington, D. C	80 University street
201	Mrs. Winslow Upton	do	do
202	Dr. Frank Caldwell	Cincinnati, Ohio	———
203	R. S. Rideout	Lewiston, Me	207 Bleury street
204	J. W. Spencer	Columbia, Mo.	Cor. Sherbrooke and City Councillor streets
205	Miss Spencer	do	do
206	Mrs. A. Warren	do	do
207	J. J. Bell	Exeter, N. H	Windsor Hotel
208	Mrs. J. J. Bell	do do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
209	C. Schaeffer	Philadelphia, Pa	Windsor Hotel
210	J. D. McGuire	Elliott City, Md	42 Victoria street
211	Mrs. J. D. McGuire	do do	do
212	F. C. Seagrave	Providence, R.I	Windsor Hotel
213	Mrs. S. A. Seagrave	do do	do
214	N. D. C. Hodges	Salem, Mass	7 Burnside Place
215	J. J. May	Boston, Mass	J.H.R. Molson, Piedmon
216	Mrs. J. J. May	do	do
217	Miss May Davis	do	do
218	Miss M. Winson	do	do
219	A. J. Cook	Lansing, Mich	Richelieu Hotel
220	Mrs. A. J. Cook	do	do
221	Miss A. Curtiss	Owosso, Mich	do
222	Arthur F. Taylor	Cleveland, O	St. Lawrence Hall
223	J. E. Hendrick	Des Moines, Iowa	St. James Hotel
224	Gaetano Lanza	Boston, Mass	20 University street
225	Mrs. M. Hartley Brown	New York City	101 Metcalfe street
226	F. A. Wilber	New Brunswick, N. J	77 Mansfield street
227	Mrs. F. A. Wilber	do	do
227	S. A. Maxwell	Cincinnati, O	St. James Hotel
229	H. A. Hagen	Cambridge, Mass	Windsor Hotel
230	R. L. P. Mason	Providence, R. I	———
231	N. M. Mason	do	———
232	C. H. Fernald	Orono, Me	91 Cathedral street
233	Mrs. C. H. Fernald	do	do
234	S. Henshaw	Boston, Mass	Windsor Hotel
235	L. B. Hall	Haverford, Pa	St. Lawrence Hall
236	J. A. Kirkpatrick	Philadelphia, Pa	344 Bleury street
237	L. W. Kirkpatrick	do	do
238	Mrs. S. L. Fish	Brunswick, Me	91 Cathedral street
239	C. Fish	do	do
240	W. J. Martin	North Carolina	56 University street
241	B. Forgate	Auburn, N. Y	31 Victoria street
242	Mrs. B. Forgate	do	do
243	Miss M. Kelsey	Clinton, N. Y	do
244	A. P. Kelsey	do	31 Victoria street
245	Canon Henderson	Montreal	852 Dorchester street.
246	S. J. Wardwell	Rutland, Vt	St. Lawrence Hall.
247	Mrs. S. J. Wardwell	do	do
248	Mrs. L. O. Mound	do	do
249	Miss H. M. King	Salem, Mass	903 Sherbrooke street.
250	Miss M. W. Nichols	do	do
251	J. L. Wall	New York City	Windsor Hotel.
252	C. F. Rand	Batavia, N. Y	do
253	W. A. Anthony	Ithaca, N. Y	New York House.
254	Mrs. W. A. Anthony	do	do
255	Miss Anthony	do	do
256	J. B. Webb	do	do
257	S. W. Morehouse	Wayland, N. Y	Windsor Hotel.
258	S. T. Clark	Lockport, N. Y	do
259	J. T. Lovewell	Topeka, Kan	do
260	J. B. Murdock	Annapolis, Ind	219 Peel street.
261	W. H. Pitt	Buffalo, N. Y	do
262	Mrs. Pitt	do	do
263	R. G. Eccles	Brooklyn, N. Y	40 Osborne street
264	E. W. Morley	Cleveland, Ohio	———

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No.	Name.	Permanent Residence.	Residence during the Meeting.
265	Mrs. Morley	Cleveland, Ohio	———
266	Mrs. C. E. Ridler	Kingston, Mass	Albion Hotel.
267	H. N. Rust	Pasaduna, Cal	108 Stanley street.
268	C. E. Ridler	Kingston, Mass	Albion Hotel.
269	Mrs. E. D. Cheney	Jamaica Plain, Mass	101 Metcalfe street.
270	Miss M. S. Cheney	do do	do
271	E. B. Treat	New York	1351 St. Catherine street
272	B. P. Mann	Washington	916 Dorchester street.
273	G. Macloskie	Princeton, N.J	7 Hanover street.
274	W. B. Carpenter,	London, Eng	241 University street.
275	Mrs. Carpenter	do	do
276	W. W. Payne	Northfield, Min	———
277	Jas Warnock	New York	Windsor Hotel.
278	W. H. Mead	do	do
279	Mrs. Mead	New York	Windsor Hotel
280	Mrs. J. C. Lathrop	Bridgeport, Conn	1474 St. Catherine street
281	J. C. Lathrop	do	do
282	T. F. Jewell	Newport, R. I	91 Cathedral street
283	E. S. Dunham	New York,	111 Union Avenue
284	E. K. Fitch	Jefferson, Ohio	St. Lawrence Hall
285	D. H. Wells	Hartford, Conn	19 Brunswick street
286	Mrs. Wells	do	do
287	S. Watson	Cambridge, Mass	903 Sherbrooke street
288	Rev. C. J. S. Bethune	Port Hope, Ont	169 University street
289	G. N. Wilber	New York	1460 St. Catherine stree
290	Miss S. Marble	Woonsocket, R. I	19 Brunswick street
291	J. R. Marble	do	do
292	J. R. Bartlett	Lonsdale, R. I	903 Sherbrooke street
293	J. L. Hills	South Boston	38 Cathcart street
294	E. B. Reed	London, Ont	1466 St. Catherine street
295	T. Green	Easton, Penn	164 Peel street
296	Miss Green	do	do
297	A. May	West Chester, Penn	9 Richmond Square
298	H. P. Bassett	Waterbury	447 St. Lawrence street
299	E. T. Jenks	Middleborough, Mass	1070 St. Catherine street
300	Mrs. Jenks	do	do
301	Miss M. A. Haskins	do	do
302	Wm. Lilly	Mauch Chunk, Penn	Windsor Hotel
303	Mrs. L. Stone	Chicago, Ill	101 Metcalfe street
304	B. F. Harrison	Wallingford	1460 St. Catherine street
305	J. H. Batchelder	Salem, Mass	Windsor Hotel
306	E. L. Larkins	New Windsor, Ill	St. Lawrence Hall
307	S. Painter	Washington, D. C	1325 St. Catherine street
308	R. Hitchcock	New York	American Hotel
309	W. Osler	Montreal	1351 St. Catherine street
310	S. H. Freeman	Cleveland, Ohio	———
311	C. E. Hausmann	Troy, N. Y	St. James Hotel
312	Miss L. E. Payne	Montreal	130 McKay street
313	G. D. Phippin	Salem, Mass	Windsor Hotel
314	E. J. Bartlett	Hanover, N. H	903 Sherbrooke street
315	I. J. Justus	Standforville, N. Y	21 McGill College Avenue
316	Dr. A. A. Julien	New York	do
317	Mrs. Julien	do	do
318	A. Winchell	Ann Arbour, Mich	1591 St. Catherine street
319	Mrs. Winchell	do	do
320	Miss J. D. Winchell	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
321	C. K. Wead	Ann Arbour, Mich	903 Sherbrooke street
322	C. C. Merriman	Rochester, N. Y	24 Lorne Avenue
323	Mrs. Merriman	do	do
324	Miss G. B. Merriman	do	do
325	C. H. Fisher	Providence, R. I	———
326	H. M. Newington	St. Louis, Miss	256 St. Antoine street
327	Mrs. Ireland	do	do
328	Mrs. H. Ireland	do	do
329	G. W. Winchell	Raleigh, N. C	903 Sherbrooke street
330	Mrs. K. N. Doggett	Chicago, Ill	256 Bleury street
331	G. H. Scribner	Yonkers, N.Y	24 Lorne Avenue
332	G. H. Scribner, jr	do	do
333	H. A. Roland	Baltimore, Md.	42 Victoria street
334	E. T. Nelson	Delaware, Ohio	———
335	E. W. Blake, jr	Providence, R. I	340 Bleury street
336	Mrs. Blake	do	do
337	E. W. Blake, 3rd	do	do
338	J. D. Hyatt	New York	St. James Hotel
339	Mrs. J. D. Hyatt	New York	St. James Hotel
340	E. S. Atwood	East Orange, N. J	9 Richmond place
341	Mrs. Atwood	East Orange, N. J	9 Richmond Square
342	L. Carman	Bengall, N. Y	American Hotel
343	H. A. Homes	Albany, N. Y	903 Sherbrooke street
344	R. J. Wickstead	Ottawa, Ont	Cote St. Antoine
345	C. M. Knight	Akron, Ohio	American House
346	E. C. Denassy	Trenton, Ont	do
347	H. H. Lyman	Montreal	74 McTavish street
348	W. M. Anderson	Columbus, Ohio	———
349	W. H. Ranch	Chicago, Ill	———
350	F. H Herrick	Tilton N.H	80 Union Avenue
351	W. R. Pedrick	Lawrence, Mass	Albion Hotel
352	Mrs. M. M. Barker	Lowell, Mass	do.
353	J. S. Dixwell	Cambridge, Mass	27 Windsor street
354	Mrs. Dixwell	do	do
355	C. A. Young	Princeton, N. J	68 St. Famille
356	B. E. Barker	Lowell, Mass	Albion Hotel
357	Eleanor B. Tedrick	Lawrence, Mass	do
358	J. Logan	New York, N. Y	St. Lawrence Hall
359	Miss Logan	do	do
360	T. S. Robertson	Rockford, Ill	108 Mansfield street
361	Mrs. Robertson	do	do
362	S. W. Holman	Boston, Mass	164 Peel street
363	Arthur Perkins	Hartford, Conn	Diocesan College
364	Horatio Hale	Clinton, Ont	916 Dorchester street
365	A. R. Leeds	Hoboken, N. J	Windsor Hotel
366	Mrs. Leeds	do	do
367	H. T. Eddy	Cincinnati, Ohio	1128 Sherbrooke street
368	Mrs. Eddy	do	do
369	Miss Eddy	do	do
370	James Silliman	Easton, Pa	208 Peel street
371	Mrs. Silliman	do	do
372	E. J. Nolan	Philadelphia, Pa	211 St. Antoine street
373	G. H. Perkins	Burlington, Vt	31 McTavish street
374	L. B. Arnold	Rochester, N. Y	Windsor Hotel
375	A. H. Sabine	Burlington, Vt	947 Dorchester street
366	H C. Hovey	New Haven, Conn	80 Union Avenue

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No.	Name.	Permanent Residence.	Residence during the Meeting.
377	E. T. Hovey	New Haven, Conn	80 Union Avenue
378	Mary Moody	Buffalo, N. Y	———
379	R. Moody	do	———
380	A. E. Heighway	Cincinnati, Ohio	903 Sherbrooke street
381	P. A. Sherman	Hanover, N. H	16 University street
382	Mrs. Sherman	do	do
383	S. H. Hudson	Clinton, N. Y	23 Shuter street
374	R. P. Whitfield	New York city	Windsor Hotel
385	Wm. Woolsey Johnson	Annapolis, Md	109 Union Avenue
386	Mrs. Johnson	do	do
387	F. Hoffman	New York city	27 Victoria street
388	Mrs. Fred. Hoffman	do	27 Victoria st.
389	Master O. Hoffman	do	do
390	H. Loomis	Burlington, Vt	78 Mansfield St
391	R. W. Willson	New Haven, Ct	Windsor Hotel
392	Mrs. R. W. Willson	do	do
393	Miss N. O. Glover	Brooklyn, N. Y	288 Bleury st
394	Miss M. Glover	do	do
395	Miss L. Ordway	Jamaica Plain	do
396	P. H. Vander Weyde	New York city	104 St. Famille
397	Mrs. Vander Weyde	do	do
398	Mary P. Palmer	Boston, Mass	258 Bleury st
399	Miss C. P. Ames	Jamaica Plain	do
400	P. R. Hoy	Racine, Wis	21 Mark st
401	Miss J. Hoy	do	101 Metcalfe st
402	E. W. Davison	Baltimore, Md	Windsor Hotel
403	H. C. Lewis	Germantown, Pa	———
404	Mrs. Lewis	do	———
405	Miss Lewis	do	———
406	W. B. Dwight	Poughkeepsie N. Y	55 Argyle st
407	Mrs. E. H. Dwight	do	do
408	Miss E. Dwight	do	do
409	L. M. Holstein	Belvedere, N. J	1460 St. Catherine st
410	Mrs. G. W. Holstein	do	do
411	G. W. Holstein	do	do
412	Mrs. A. E. Holstein	do	do
413	Geo. W. Hammond	Boston, Mass	Windsor Hotel
414	Mrs. Hammond	do	do.
415	A. W. Schaefer	Pottsville, Pa	1363 St. Catherine st
416	A. H. Chester	Clinton, N. Y	791 Sherbrooke st
417	J. Tatum	St. Louis, Mo	826 Ontario st
418	Mrs. Tatum	do	do
419	H. Davenport	Cincinnati, Ohio	Windsor Hotel
420	L. H. Armstrong	St. Nicholas, Fla	St. Lawrence Hall
421	Mrs. Armstrong	do	do
422	J. C. Kimball	Boston, Mass	42 Victoria st.
423	C. H. Winston	Richmond, Va	St. James Hotel
424	Wm. Libbey, Jr	Princeton, N. J	Windsor Hotel
425	Mrs. Libbey	do	do
426	H. R. Rogers	Dunkirk, N. Y	———
427	Mrs. T. Meehan	Germantown, Pa	1,474 St. Catherine street
428	Miss Meehan	do	do
429	Thomas Meehan	do	do
430	Miss Sarah Meehan	do	do
531	T. G. Comstock	St. Louis, Mo	Windsor Hotel
432	Mrs. Comstock	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
433	Alice W. Palmer	Roxbury	258 Bleury street
434	James A. Page	Boston, Mass	540 Bleury street
435	Miss A. M. Harmon	Ottawa	1,738 St. Catherine street
436	M. A. A. Livermore	Cambridge, Mass	22 Cathcart street
437	Elizabeth S. Knight	New York, N. Y	do
438	B. W. Eaton	Salem, Mass	11 Hanover street
439	Mary H. Stone	do	do
440	Lincoln W. Stone	Newtown, Mass	do
441	Laura P. Stone	do	do
442	Harriet P. Stone	do	do
443	Harriet L. Wolcott	Boston, Mass	do
444	Henrietta Wolcott	do	do
445	John S. Jack	Chateauguay	———
446	Grace Wolcott	Boston, Mass	11 Hanover street
447	Miss Jack	Chateauguay	———
448	Mrs. A. L. Jack	do	———
449	Leander Safford	Boston, Mass	207 Bleury street
450	Mary Safford	do	do
451	W. L. Stevens	New York, N. Y	1,396 St. Catherine street
452	N. L. Britton	New York City	148 Peel street
453	Arthur H. Elliott	do	27 Windsor street
454	Geo. F. Kunz	do	1,474 St. Catherine street
455	Mrs. Kunz	do	do
456	Rev. S. J. Coffin	Easton, Pa	802 Sherbrooke street
457	Mrs. Coffin	do	do
458	Charles Speck	St. Louis, Mo	799 Sherbrooke street
459	Geo. Sutton	Aurora, Ind	Windsor Hotel
460	Georgia Sutton	do	do
461	W. H. Harding	Lunenburg, Ind	———
462	Mrs. Harding	do	———
463	Otis Bigelow	Washington	78 Mansfield street
464	R. P. Bigelow	do	do
465	S. A. Lattimore	Rochester, N. Y	903 Sherbrooke street
466	E. S. Dana	New Haven, Conn	Walbrae P. Dr. Harrington
467	Dr. Schweitzer	Columbia, Mo	32 McTavish street
468	D. S. Kellogg	Clinton, N. Y	23 Shuter street
469	Mrs. Kellogg	do	do
470	Janet W. Williams	Newton Falls, Mass	43 Mayor street
471	Mary C Moore	do	do
472	Louis Elsberg	New York city	Windsor Hotel
473	Mrs. Elsberg	do	do
474	Carl Leiler	Philadelphia, Pa	1,325 St. Catherine street
475	D. B. F. Davenport	Boston, Mass	27 Victoria street
476	Mrs. Davenport	do	do
477	Miss Emma Davenport	do	do
478	" Mattie Davenport	do	do
479	" Mary Davenport	do	do
480	C. H. Sprague	Malden, Mass	Windsor Hotel
481	Mrs. Sprague	do	do
482	Frank Baker	Washington, D. C	American House
483	Alex. S. Fenwick	London, Ont	7 Mackay street
484	Miss Louise Fenwick	do	do
485	C. J. Bernes	Chicago, Ill	17 Durocher street
486	R. Janney	Wilmington, Ohio	45 Metcalfe street
487	Miss Ella Janney	do	do
488	C. D. Zimmerman	Buffalo, N. Y	American House

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No.	Name.	Permanent Residence.	Residence during the Meeting.
489	B. Hedrick	Washington, D.C.	St. Lawrence Hall
490	Mrs. Hedrick	do	do
491	Wm. H. Brewer	New Haven, Conn	Windsor Hotel
492	Wm. A Rogers	Cambridge, Mass	893 Sherbrooke street
403	J. H. Washburn	Bridgewater, Mass	38 Cathcart street
494	D. C. Gilman	Baltimore, Md	Windsor
495	Miss Gilman.	do	do
596	Mrs. Gilman	do	do
497	Miss A. Gilman	do	do
498	M. J. Morse	Lawrence, Mass	Albion House
499	Wm. Zimmermann	Chicago, Ill.	American House
400	Miss Fanny Zimmermann	Buffalo, N. Y.	do
501	W. J. Beal	Lansing, Mich.	Richelieu Hotel
502	Miss Beal.	do	do
503	Miss Beal.	do	do
504	Mr. Trowbridge	Detroit, Mich.	23 Hanover street
505	Mrs. Trowbridge	do	do
506	Carl Warnecke	Montreal	157 St. Constant
507	C. E. Monroe	Annapolis, Md	757 Sherbrooke street
508	Miss Stone	Chicago, Ill.	101 Metcalfe street
599	Mrs. H. Stone.	do	do
510	S. J. Horton	Chester, Conn	Windsor Hotel
511	Chas. V. Woers	Waltham, Mass	do
512	Thomas Taylor	Washington, D. C	893 Sherbrooke street
513	Miss Taylor.	do	do
514	J. W. Doughty	Newburgh	St. James Hotel
515	Nath. Paine.	Worcester, Mass	Windsor Hotel
516	Mrs. N. Paine	do	do
517	R. V. Merchant.	East Plymouth, Mass	American House
518	Mrs. Merchant	do	do
519	J. Anderson	Waterbury, Conn	41 St. Mark street
520	Mrs. J. Anderson	do	do
521	Edwin Harrison	St. Louis, Mo	799 Sherbrooke street
522	Mrs Harrison	do	do
523	J. K. Rees	New York, N. Y	Windsor Hotel
524	R. H. Ward.	Troy, N. Y	20 Beaver Hall
525	J. S. Copes	New Orleans	757 Sherbrooke street
526	Miss E. Herman	New York, N. Y	Windsor Hotel
527	John Trowbridge	Cambridge, Mass	do
528	Mrs. J. Trowbridge	do	do
529	Miss Alice Gray	do	do
530	Wm. H. Barr	Troy, N.Y	do
531	Mrs. Barr	do	do
532	Thos. S. Gladding	New York, N.Y	205 Mansfield street
533	Wm. Gladding	do	do
534	A. W. Butler	Brockville, Ind	American House
535	A. B. Hervey	Taunton, Mass	1819 St. Catherine street
536	Miss Curo	Keysville, N.Y	1128 Sherbrooke street
537	T. R. Pynchon	Hartford, Conn	21 McGill College Ave
538	T. Beall	Lindsay, Ont	11 Burnside Place
539	Louisa Frost	Yonkers, N.Y	24 Lorne Avenue
540	Mr. Dalbras	College Hill, Mass	
541	C. Roosevelt	New York, N.Y	1070 St. Catherine street
542	J. W. Lovell	do	1283 St. Catherine street
543	Mrs. Lovell	do	do
544	Mrs. J. W. Lovell	do	do
545	Joseph Libbey	Georgetown, D.C	Windsor Hotel
546	Mrs. E. Orton	Columbus, O	799 Sherbrooke street
547	E. Orton	do	do
548	E. W. Claypole	Perry Co., Pa	42 Prince Arthur street
549	Mrs. Claypole	do	do

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No.	Name.	Perminent Residence.	Resiecnce during the Meeting.
550	Pliny E. Chase	Haverford, Pa	168½ St. Denis street
551	Eliz. B. Chase	do	do
552	Maria Chase	do	do
553	Harriet Chase	do	do
554	James E. Oliver	Ithaca, N.Y	do
555	Martha Oliver	do	do
556	May Oliver	do	do
557	J. D. Warner	Brooklyn, N.Y	Richelieu Hotel
558	Miss Warner	do	do
559	Mrs. J. D. Warner	do	do
560	Miss L. Warner	New York, N.Y	do
561	Mrs. Weld	do	do
562	H. E. Smith	Hartford, Conn	14 McGill College Ave
563	I C. White	Morgantown, W. Va	23 Hanover street
564	A. Tuttle	Columbus, O	Windsor Hotel
565	Mrs. Tuttle	do	do
566	J. S. Hicks	Roslyn, N Y	St. Lawrence Hall
567	Miss Hicks	do	do
568	G. D. Purinton	Greenville, S. C	23 Hanover street
569	J. A. Lintner	Albany, N. Y	764 Sherbrooke street
570	Mrs. Lintner	do	do
571	J. W. Gilbert	Rothampsted, Eng	182 University street
572	S. Marsden	St. Louis, Mo	St. James Hotel
573	Mrs. M. F. Walling	Washington, D. C	111 Union Avenue
574	Henry F. Walling	do	do
575	Mrs. N. M. Arnold	do	do
576	Miss Lizzie B. Walling	do	do
577	Mrs. J. W. Gilbert	Rothampsted, Eng	182 University street
578	Asa Gray	Cambridge, Mass	Dr. Dawson
579	Mrs. Gray	do	do
580	Miss A. C. Fletcher	do	107 Union Avenue
581	Miss Mary Tyndall	Omaha	do
582	A. B. Bleckoett	Somerville, N. J	903 Sherbrooke
583	Mary E. Owens	Cincinnati, O	101 Metcalfe street
584	Mrs. Wm. Owens	do	do
585	H. L. Smith	New York, N. Y	29 Burnside street
586	Mrs. J. H. Smith	do	do
587	R. M. Atwater	Milleville	1673 St. Catherine
588	Abby Atwater	do	do
589	Louis H. Pignolet	Montreal	104 St. Famille
590	Mrs. Pignolet	do	do
591	Miss Pignolet	do	do
592	Louis M. Pignolet	do	do
593	Benj. Cotting	Roxbury, Mass	Dr. Hingston
594	H. S. Evans	Montreal	400 Sherbrooke
595	Mrs. Evans	do	do
596	Miss Evans	do	do
597	G. F. H. Markoe	Boston, Mass	do
598	Mrs. Markoe	do	do
599	Henry A. Jones	Portland, Me	Windsor Hotel.
600	Mrs. Jones	do	do
601	Robert Brown	New Haven, Conn	791 Sherbrooke st.
602	Mrs. Brown	do	do
603	Miss Brown	do	do
604	Dr. A. J. Howe.	Cincinnati, O.	———
605	Mrs. Howe	do	———
606	H. Fairbank	St. Johnsburg, Vt	Windsor Hotel.
607	D. W. Prentis	Washington, D.C	do
608	Mrs. Prentis	do	do
609	Miss Carman	do	———
610	Mr. Canfield	do	———

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No.	Name.	Permanent Residence.	Residence during the Meeting.
611	S. Fleming	Ottawa	Windsor Hotel.
612	Mrs. J. Hall	Albany, N.Y	600 Sherbrooke st.
613	Miss Anna Hall	do	do
614	Mrs. Barler	Montreal	do
615	C. F. Clapp	S. Hadley, Mass	———
616	Miss A. Fay	do	———
617	Wm. J. Johnson	Washington, D.C	Windsor Hotel.
618	W. H. Manning	Reading, Mass	Albion Hotel.
619	Mrs. Manning	do	do
620	J. R. Edmands	Cambridge, Mass	903 Sherbrooke st.
621	Miss Edmands	Salem, Mass	do
622	S. W. Will	Washington, D.C	916 Dorchester st.
623	P. W. Schaefer	Stotsville, Pa	Windsor.
624	Miss L. Schaefer	do	do
625	Henry Schaefer	do	do
626	H. Cargill	Toronto	St. Lawrence.
627	Eli T. Tappan	Gambier, O	31 Donegana st.
628	Mrs. Tappan	do	do
629	Mrs. J. H. Wright	Hanover, N.H	do
630	E. R. Leland	New York, N.Y	Windsor.
631	Ruth Leland	do	do
632	C. F. Hitchcock	Hanover, N.H	do
633	G. H. Snelling	Boston, Mass	289 Peel st.
634	J. R. Dodge	Washington, D.C	898 Dorchester street.
635	Mrs. J. R. Dodge	Washington, D.C	898 Dorchester street
636	Sarah M. Dawson	Boston, Mass	161 Mountain street
637	Fanny Dawson	do	do
638	Louis C. Wartele	Actonvale, Q	901 Sherbrooke street
639	Mary Wartele	do	84 St. Hubert street
640	Miss Fortier	do	901 Sherbrooke street
641	E. G. Miller	Baltimore	St. Lawrence Hall
642	Susan P. Boynton	Lynn, Mass	———
643	Chas. S. Hastings	Baltimore	211 Peel street
644	R. B. Warder	Cincinnati, O	Cote St. Antoine, J. Little
645	Miss A. Warder	do	do
646	T. W. Mills	Montreal	561 Dorchester street
647	F. L. Capen	Boston, Mass	McGill College
648	F. B. Hough	Lowville, N.Y	St. Lawrence Hall
649	John Eaton	Washington, D.C	do
650	Mrs. Eaton	do	do
651	C. Mohr	Mobile, Alb	do
652	H. A. Smith	Cincinnati, O	Windsor Hotel
653	F. A. Sulley	Oktibbeha Co., Miss	Richelieu Hotel
654	A. Melville Bell	Georgetown, D.C	Windsor Hotel
655	G. N. Merryweather	Cincinnati, O	79 Mansfield street
656	W. G. Merryweather	Bellefontaine, O.	do
657	J. H. Pillsbury	Springfield, Mass	903 Sherbrooke street
658	E. L. Nichols	Richmond, Ky	———
659	H. Snyder, Jr	Columbus, O	Richelieu Hotel
660	C. F. Lamb	Rochester, N.Y	Windsor Hotel
661	John W. Spencer	Sullivan Co., Ind	1130 St. Catherine street
662	N. M. Terry	Annapolis, Md	Windsor—90 Union Ave
663	Mrs. C. A. Terry	do	do
664	H. M. Parkhurst	New York, N.Y,	1431 St. Catherine street
665	Mrs. Parkhurst	do	do
666	Miss Ida Parkhurst	do	do
667	Rev. S. Bush	Waterford, NY	do
668	J. J. L. Hinds	Lebanon, Tenn	903 Sherbrooke street
669	A. C. Hamlin	Bangor, Me.	113 University street
670	Prof. Webster	Norfolk, Va	Windsor
671	Mrs. Webster	do	do

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No.	Name.	Permanent Residence.	Residence during the Meeting.
672	Louis Swift	Rochester, N.Y.	1357 St. Catherine St
673	Mrs. Swift	do	do
674	Miss H. Hamlin	———	113 University St
675	Miss Stetson	———	do
676	Mrs. A. C. Hamlin	Bangor, Me	do
677	Benj. F. Thomas	Columbia, Mo.	St. Lawrence Hall
678	S. P. Hart	Hamilton Co., O	20 University St
679	Mrs. Hart	do	do
680	R. B. Hare	Guelph, Ont	87 Cathedral St
681	Mrs. Hare	do	do
682	Mary R. Alling	Boston, Mass	207 Bleury St
683	Mrs. S. H. Perkins	Burlington, Vt	31 McTavish St
684	J. W. Chickering	Washington, D.C.	78 Mansfield St
685	W. H. Leaman	do	537 St. Lawrence St
686	Mrs. Leaman	do	do
687	Miss S. E. Clark	do	do
688	Wm. Bross	Chicago.	Windsor
689	L. B. Fletcher	Marlboro, N.Y	———
690	Chas. R. Dodge	Washington, D.C	852 Dorchester St
691	Mrs. Dodge	do	do
692	Miss F. White	Pittsfield, Mass	do
693	H. P. Bowditch	Boston, Mass	66 McGill College Avenue
694	Mrs. Bowditch	Jamaica Plain.	do
695	C. Constable	Constableville, N.Y.	31 McTavish St
696	Thos. McFadden	Westerville, O	———
697	Robt. C. Adams	Montreal	45 Metcalfe St
698	De Volson Wood	Hoboken, N.J	———
699	Miss A. Wurtfeldt	St. Louis, Mo.	207 Bleury St
700	Miss E. Wurtfeldt	do	do
701	A. P. Hallock	New York, N.Y	———
702	Mrs. Hallock	do	do
703	F. W. Crosby	Washington, D.C	Victoria House
704	Hannah E. Crosby	do	do
705	F. A. Sulley	Oktibbeha Co., Miss	Richelieu Hotel
706	E. L. Hood	Minneapolis, Minn	Canada Hotel
707	W. Crosby	Boston, Mass	207 Bleury St.
708	Eliz. Curtis	Jamaica Plain.	do
709	Alice B. Crosby	Boston, Mass	do
710	F. Spier	S. Orange, N. Y.	Windsor Hotel
711	C. A. Miller	Carthage, O.	do
712	C. A. Miller	do	do
713	L. A. Miller	Cincinnati, O	do
714	Mrs. Miller	do	do
715	R. M. Byrnes	do	do
716	Mrs. Byrnes	do	do
717	Ed. Murphy	Montreal	1526 St. Catherine
718	T. J. Wilmot	Rye, N.H.	149 Durocher st
719	T. R. Lonnesbury	New Haven, Conn	Windsor Hotel
720	Sarah F. Whiting	Wellesley, Mass.	do
721	T. H. Jones.	do	do
722	L. M. Hodgkins	do	do
723	Marion Pelton	do	do
724	H. F. Osborn	Princeton, N.J	do
725	Miss A. L. Wingate	Brooklyn, N.Y	903 Sherbrooke st
726	S. L. Frey	Palatine Bridge, N.J	28 Cathcart street
727	Mrs. A. E. Frey	do	do
728	John S. Clark	Boston, Mass	317 Drummond street
729	S. F. Peckham	Providence, R.I	Windsor Hotel
730	O. D. Norton	Cincinnati, O	do
731	Rev. J. Cummings	Evanston, Ill	56 University street
732	O. Atwood	Rutland, Vt	1283 St. Catherine street.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
733	Ed. Drummer	Boston, Mass	Canada Hotel
734	James Troop	Lansing, Mich	Richelieu Hotel
735	J. B. Stone	Detroit, Mich	23 Hanover street
736	Mrs. Stone	do	do
737	A. B. Howe	New Haven, Mich	903 Sherbrooke street
738	J. P. Iddings	Orange, N.J	41 McGill College Av.
739	Henry Stone	New York, N. Y	St. Lawrence Hall
740	Mrs. C. E. Whiton	do	do
741	Miss E. Whiton	do	do
742	Abbé Chabert	Montreal	111 Notre Dame street
743	T. W. Gleeson	Boston, Mass	Cathedral street
744	L. W. Andrews	Brooklyn, N. Y	404 St. Antoine street
745	Miss J. Andrews	do	do
746	Miss Hutchison	do	do
747	B. B. Dale	Cincinnati, O.	Albion Hotel
748	John Wanless	Montreal	88 Union Avenue
749	Mrs. Wanless	do	do
750	James Wanless	do	do
751	Miss Wanless	do	do
752	Brown Ayres	New Orleans, La	———
753	Richard Colburn	Elizabeth, N. J	Victoria Hotel
754	Mrs. Colburn.	do	do
755	B. Fernon	Statington, Pa	77 Mansfield street
756	S. F. Ballow	Waltham, Mass	———
757	Alvan Moore	Magog, Q	St. Lawrence Hall
758	Mrs. Constable	Constableville, N. Y	31 McTavish street
759	Prof. Purinton	Morgantown	23 Hanover street
760	H. O. Marcy	Boston, Mass	27 Windsor street
761	L. E. Russell	Springfield, O	———
762	Mrs. Russell	do.	———
763	Mrs. E. M. Stone	Providence, R. I	11 Hanover street
764	A. Proudfoot	Montreal	2 Phillips Place
765	Mrs. Proudfoot	do.	do
766	Miss Cleveland	Michigan, Ill	88 Drummond street
767	Anna J. Morton	do.	do
768	Marion Fortescue	New York City	Windsor Hotel
769	Miss Fortescue	do.	do
770	E. L. Youmans	do.	do
771	Mrs. Youmans	do.	do
772	Joseph Bemrose	Montreal	Box 158
773	James Fletcher	Ottawa	———
774	W. H. Harrington	Ottawa	———
775	T. Townsend	Durham, Ont.	Victoria House.
776	E. Hungerford	Burlington, Vt	80 University street.
777	Miss Hungerford	do	do
778	C. J. Blake	Boston	15 Ontario street.
779	Mrs. C. Blake	do	do
780	Miss Hughes	do	do
781	Chas. H. Pettee	Hanover, N.H	Richelieu Hotel
782	H. F. Homes	Albany, N.Y	903 Sherbrooke street.
783	W. A. Silliman	Clarkson, N.Y	281 University street.
784	Miss Bellinger	do	do
785	Miss A. Williams	———	———
786	Maria Thompson	Cincinnati, O	791 Sherbrooke street.
787	Mrs. A. B. Smith	St. Albans, Vt	Windsor.
788	Miss H. Smith	do	do
789	W. H. Lynch	Danville, P.Q	486 Ontario street.
790	Geo. Baptie	Ottawa	———
791	Rev. S. Heine	Montreal	———
792	S. T. Robins	do	Hochelaga.
793	R. H. Lamborn	New York	Windsor.

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No.	Name.	Permanent Residence.	Residence during the Meeting.
794	A. N. Phelps	Chateauguay, N.Y	do
795	S. L. Marler	Montreal	18 Fort street
796	Fred. H. Hedge	Boston, Mass	Windsor
797	John Kennedy	Montreal	113 University street.
798			
799	Miss J. Haight	do	1738 St. Catherine street.
800	E. A. Bowser	New Brunswick, N.J	St. Lawrence Hall.
801	Mrs. B. H. Dickson	Montreal	88 Union Av.
802	Miss B. Latour	do	36 McGill street.
803	Mrs. Lotour	do	do
804	Miss M. Latour	do	do
805	Mr. Bossom	do	do
806	Miss M. Bossom	do	do
807	A. P. Stewart	Lincoln, Neb	Windsor.
808	Mrs. Stewart	do	do
807	A. P. Stewart	Lincoln, Neb	Windsor Hotel
808	Mrs. Stewart	do	do
809	Thos. S. Case	Kansas City, Mo	1153 St. Catherine street
810	S. S. Haight	New York, N.Y	1431 do
811	Mrs. M. A. Bingham	Kansas City, Mo	1153 do
812	Mrs. F. O. Case	do	1153 do
813	Alex. Moore	Boston, Mass	25 St. Denis street
814	Alex. Moore, jr	do	do
815	Henry Carmichael	Brunswick, Me	———
816	J. M. McLarty	Boston, Mass	25 St. Denis street
817	Leonard Waldo	New Haven, Conn	127 Metcalfe street
818	Mrs. Waldo	do	do
819	G. E. Hood	Lawrence, Mass	Richelieu Hotel
820	Miss Hood	do	do
821	Miss Clara Hood	do	do
822	A. F. Crowell	Woods Holl, Mass	Windsor Hotel
823	Mrs. Crowell	do	do
824	Miss R. Shunick	do	do
825	Miss P. Crowell	do	do
826	Fred. Frothingham	Milton, Mass	Piedmont, Durocher st
827	Mrs. Frothingham	do	do
828	Robt. A. Ramsay	Montreal	1134 Sherbrooke street
829	H. W. Williams	Boston, Mass	———
830	E. H. Hall	Cambridge, Mass	398 Dorchester st.
831	F. D. Adams	Ottawa, Geol. Survey	41 McGill avenue
832	Wm. H. Niles	Cambridge, Mass	———
833	John Davis	Cincinnati, O	764 Sherbrooke street
834	Mrs. Davis	do	do
835	E. S. Ritchie	Boston, Mass	Windsor Hotel
836	C. J. Morse	Youngstown, O	79 Mansfield street
837	Miss Morse	do	do
838	W. O. Stillman	Saratoga, N.Y	———
839	Mrs. Stillman	do	———
840	E. B. Whitman	Cambridge, Mass	344 Bleury street
841	Rev. Prof. Wiltshire	Lewisham, London, S. E.	McGill University
842	Mrs. Wiltshire	do	do
843	J. S. Shene	London, S. E	do
844	W. Raymond Rogers	Dunkirk, N.Y	Richelieu Hotel
845	E. H. Vredenburgh	Rochester, N. Y	Windsor Hotel
846	Mrs. Anna Ayrault	do	do
847	Robert Mathews	do	do
848	Mrs. R. Mathews	do	do
849	Mrs. C. E. Mathews	do	do
850	L. Schoney	New York, N. Y	———
851	Mrs. Schoney	do	———
852	Master Schoney	do	———

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No.	Name.	Permanent Residence.	Residence during the Meeiing.
853	J. S. Newberry	New York, N. Y	Windsor Hotel
854	A. Mallery	Washington, D. C	1013 Sherbrooke street
855	Mrs. Mallery	do	do
856	F. Humphreys	New York, N. Y	Windsor Hotel
857	S. Gould	Manchester	———
858	E. R. Tyler	Washington, D. C	852 Dorchester street
859	Fred. Ober	Beverley, Mass	Windsor Hotel
860	J. W. Langley	Ann Arbor	———
861	J. H. Feemster	Cincinnati	Windsor Hotel
862	David S. Jordan	Bloomington, Ind	St. James Hotel
863	Mrs. Joseph Tiffin, Jr	Montreal	864 Sherbrooke street
864	Miss Eliza Tiffin	do	do
865	Miss Mary Lovell	do	do
866	Solon F. Whitney	Watertown, Mass	Richelieu Hotel
867	Wills De Haas	Washington, D. C	Windsor Hotel
868	Mrs. De Haas	do	do
869	J. S. Schenck	Princeton, N. J	do
870	C. F. Brackett	do	do
871	John Bull	Washington, D. C	do
872	W. H. Lennon	Brockport, N.J	Canada Hotel
873	Mrs. W. H. Lennon	do	do
874	Miss F. M. Knight	Plattsburgh, N. Y	do
875	W. H. Ellis	Toronto	1351 St. Catherine street
876	T. R. Baker	Millersville, Pa	254 Bleury street
877	Mrs. S. Baker	do	do
878	P. A. Owen	Burlington, Vt	31 Victoria street
979	Mrs. Owen	do	do
880	Mr. Hibbard	Montreal	43 Mayor street
881	Miss T. Moore	do	do
882	Mrs. J. Bull	Washington, D. C	Windsor Hotel
883	T. W. Feemster	Cincinnati, O	do
884	E. Danforth	Elmira, N.Y	———
885	Geo. Bowles	Montreal	1466 St. Catherine street
886	Geo. Iles	do	Windsor Hotel
887	Joseph B. F. Osgood	Salem, Mass	do
888	H. R. Ives	Montreal	791 Sherbrooke street
889	Mrs. Ives	do	do
890	Hiram V. King	Stamford, Conn	———
891	Dr. J. A. Crevier	Montreal	389 Craig street
892	Chas. S. Shultz	Hoboken, N. J	Windsor Hotel
893	Jed. Hotchkins	Staunton, Va	do
894	J. H. Studer	Columbus, O	———
895	James Loudon	Toronto	St. Lawrence Hall
896	Rudolph Koenig	Paris, France	do
897	William Kent	Pittsburgh, Pa	Richelieu Hotel
898	T. B. Wheeler	Montreal	123 Metcalfe street
899	C. L. Wheeler	do	do
900	Miss T. A. Buffum	Linden, Mass	St. Lawrence Hall
901	T. C. Whitemore	New York, N. Y	Windsor Hotel
902	E. J. Cope	Phil, Pa	do
903	A. M. Brown	Cincinnati, O	Cor. Grey & Sherbrooke st
904	John Collett	Indianapolis Ind	Windsor Hotel
905	C. S. Price	Washington, D.C	St. Lawrence Hall
906	Mrs. J. Pourtales	do	do
907	Fred. Cole	Montreal	1394 St. Catherine street
908	Mrs. Cole	do	do
909	Miss Cole	do	do
910	John Cox	Cambridge, Eng	———

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No.	*Name.*	*Permanent Residence.*	*Residence during the Meeting.*
911	S. W. Major	Montreal	1398 St. Catherine street
912	J. H. Burland	do	283 Upper University st
913	Wm. Little	do	132 St. James street
914	D. A. P. Watt	do	285 Upper Stanley street
915	Miss Wheeler	do	123 Metcalfe street
916	Charles Garth	Montreal	28 St. Denis street
917	Thos. Cowdry	Toronto, Ont	St Lawrence Hall
918	Mrs. Cox	Cambridge, Eng	———
919	Mrs. Bulleys	New Brighton, Eng	———
920	Chas. S. Starr	Rochester, N. Y	St. Lawrence Hall
921	James Shearer	Montreal	———
922	A. McMaster	Scotstown, P. Q	St. Lawrence Hall
923	Miss. R. Lumina	Montreal	36 McGill College avenue

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LIST OF ARRIVALS.

(*Continued from page* 215.)

No.	*Name.*	*Permanent Residence.*	*Residence during the Meeting.*
924	Miss Elizabeth Farrar	Rochester, N.Y	———
925	R. W. Cowan	Montreal	416 Notre Dame street
926	Mrs. M. B. Cowan	do	do
927	Rev. A. H. Munro	do	340 Bleury street
928	Mrs. A. H. Munro	do	do
929	Miss E. Munro	do	do
930	Miss F. Munro	do	do
931	Mr. E. Munro	do	do
932	George Phelps	Nashua, N.H	———
933	William Drysdale	Montreal	232 St. James street
934	Miss Jewell	Boston, Mass	———
935	W. W. Keen	Philadelphia, Pa	130 Mackay street
936	Mrs. Keen	do	do
937	Miss Corinne Keen	do	do

MEMBERS ELECTED.

AUGUST 30TH.

315 Charles A. Ashburner, Philadelphia.
316 Miss Abby A. Beatty, Johnsonville, N.Y.
317 Dr. M. Swan Burnett, Washington, D C.
318 William Drysdale, Montreal.
319 Carroll Dunham, Jr., Irvington, N.Y.
320 George Henry Fox, New York.
321 Prof. Joseph G. Fox, Easton, Pa.
322 A. H. Muhro, Montreal.
323 James Shearer, Montreal.
324 Rev. Heman R. Timlow, South Bollston, N. Y.

NOTICE.

The list of officers given on page 191 were elected August 30.

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AMERICAN SOCIAL SCIENCE ASSOCIATION.

THE GENERAL MEETING OF 1883.

This will take place as usual at Saratoga, N. Y., early in September, 1883, opening in Putnam Hall, on Monday Evening, September 3, with an Address by President WAYLAND, and closing on Friday, September 7. The sessions of the Education Department will occur on Tuesday, those of the Health Department on Wednesday, of the Jurisprudence Department on Thursday, and of the Department of Social Economy on Friday. The headquarters of the Association will be at the *United States Hotel*, where members and guests of the Association will be received at reduced rates.

The Tenth Annual Conference of Charities will meet at Louisville, Kentucky, Monday, September, 24, 1883, and will continue in session one week. The order of business in this Conference will soon be announced. Members of the Association who desire to attend this Conference will be registered as delegates and entitled to take part in its debates; but the Proceedings of the Conference are no longer distributed to members of this Association. They may be obtained of our publishers, or of Prof. A. O. WRIGHT, Madison, Wis.

The order of business at the Saratoga Meeting of 1883 will be as follows,—subject to slight changes and to further announcements of Papers and debates:

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GENERAL MEETING AT SARATOGA,

September 3–7, 1883.

The date for the Saratoga meeting of 1883 is from the 3d to the 7th of September, inclusive. The General Sessions will be held only in the evening; the Department Meetings in the morning, with liberty to adjourn to the afternoon, if the business requires it. One hour will be the limit of Addresses, except the Annual Address of the President, and thirty minutes the limit of each Paper in reading. The Addresses and Papers will be as follows:

IN GENERAL SESSION.

Monday Evening, September 3d, 8, P. M., Opening Address of the President.

Tuesday Evening, September 4th, 8, P. M., An Address on *The American Civil Service*, by JOHN M. GREGORY, LL. D., of New York, followed by a Debate.

Wednesday Evening, September 5th, 8, P. M., Annual Report of the Secretary, and Election of Officers.

9, P. M., An Address by DONALD G. MITCHELL, Esq., of New Haven, Conn., on *Public Parks*.

Thursday Evening, September 6th, 8, P. M., An Address by Rev. T. HARWOOD PATTISON, D. D., of Rochester, N. Y., on *Free Thought in Politics*.

Friday Evening, September 7th, 8, P. M., A Debate on the question of *Labor in Prisons*, in which Prof. WAYLAND, Mr. Z. R. BROCKWAY, and others, will take part.

DEPARTMENT MEETINGS.

Tuesday, September 4th.

DEPARTMENT OF EDUCATION.

9.30, A. M., An Address by the Chairman, W. T. HARRIS, LL D., of Concord, Mass.

10, A. M., *New Methods of Study in History*, by Prof. HERBERT B. ADAMS, of Baltimore, Md.

11, A. M., A Paper by W. CAVE THOMAS, of London, Eng.

11.30, A. M., A Paper *Concerning Libraries*, by J. N. LARNED, Esq., of Buffalo, N. Y.

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12, M., *Physical Training in Homes and Training Schools*, by Dr. D. A. SARGENT, of Cambridge, Mass.

12.45, P. M., *A Practical Method of Developing the Study of Natural History*, by Prof. ALPHEUS HYATT, of Boston, Mass.

Wednesday, September 5th.

DEPARTMENT OF HEALTH.

9.30, A. M., An Address by the Chairman, Dr. E. M. HUNT, of Trenton, N. J., on *The Social Bearings of Sanitation.*

10.30, A. M., A Paper by GEORGE E. WARING, JR., ESQ., of Newport, R. I., on *House Construction with Reference to Plumbing, and Drainage.*

11, A. M., A Paper by Dr. T. D. CROTHERS, of Hartford, Conn., on *Inebriety;* followed by a Debate.

12 o'clock, M., A Paper by LUCY M. HALL, M. D., of Sherborn, Mass., on *Inebriety in Women, its Causes and Results.*

12.30, P. M., A Paper by Dr. WALTER CHANNING, of Boston, on *The Causes of Insanity.*

Thursday, September 6th.

DEPARTMENT OF JURISPRUDENCE.

9.30, A. M., An Address by the Chairman, Prof. FRANCIS WAYLAND.

10, A. M., A Paper on *The Assertion of Rights*, by Prof. JOHNSON T. PLATT, of Yale College, New Haven.

11.30, A. M., A Paper on *International Ethics*, by E. M. GALLAUDET, LL. D., of Washington, D. C.

12, M., A Paper on *Assessment of Damages in Civil Action*, by Hon. H. C. ROBINSON, of Hartford, Conn.

1, P. M., A Paper on *The Legal History of the Telephone*, by M. F. TYLER, ESQ., of New Haven, Conn.

Friday, September 7th.

DEPARTMENT OF SOCIAL ECONOMY.

9.30, A. M., An Address by the Chairman, F. B. SANBORN, Esq.

10, A. M., A Paper on *The Race Problem in the United States*, by Prof. CHARLES A. GARDINER, of Hamilton, N. Y., followed by a Debate.

11.30, A. M., A Paper by JOHN WANNAMAKER, Esq., of Philadelphia, on *Employers and Employed.*

3, P. M., A Meeting of the National Prison Association for re-organization.

4, P. M., A Paper on *Child Helping as a Means of Preventing Crime in the City of New York*, by CHARLES L. BRACE, Esq., of New York.

The September meeting of the Council will take place at Saratoga, Sept. 3, at 4, P. M.; the election of officers for the year 1883–4 on Wednesday Evening, Sept. 5, at 8.30 o'clock.

F. B. SANBORN,
General Secretary.

CONCORD, Mass., June 23, 1883.

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PROGRAMME

OF THE

THIRTY-SECOND MEETING

OF THE

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE.

COMMENCING WEDNESDAY, AUGUST 15TH,

AND CLOSING WEDNESDAY, AUGUST 22ND, 1883.

IN

MINNEAPOLIS, MINN.

MINNEAPOLIS:
PUBLISHED BY THE LOCAL COMMITTEE.
1883.

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PROGRAMME

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PUBLISHED BY THE LOCAL COMMITTEE.
1883.

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1885, Oct. 29
Gift of
Francis Co.

MINNEAPOLIS, MINN.:
PRESS OF JOHNSON, SMITH & HARRISON.
1883.

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OFFICERS OF THE ASSOCIATION

FOR THE

MINNEAPOLIS MEETING.

PRESIDENT.

C. A. YOUNG, of Princeton.

VICE PRESIDENTS

A. Mathematics and Astronomy—W. A. ROGERS, of Cambridge.
B. Physics—H. A. ROWLAND, of Baltimore.
C. Chemistry—EDWARD W. MORLEY, of Cleveland.
D. Mechanial Science—DE VOLSEN WOOD, of Hoboken.
E. Geology and Geography—C. H. HITCHCOCK, of Hanover.
F. Biology—W. J. BEAL, of Lansing.
G. Histology and Microscopy—J. D. COX, of Cincinnati.
H. Anthropology—O. T. MASON, of Washington.
I. Economic Science and Statistics—F. B. HOUGH, of Lowville.

PERMANENT SECRETARY.

F. W. PUTNAM, of Cambridge.

GENERAL SECRETARY.

J. R. EASTMAN, of Washington.

ASSISTANT GENERAL SECRETARY.

ALFRED SPRINGER, of Cincinnati.

SECRETARIES OF THE SECTIONS.

A. Mathematics and Astronomy—[Absent.]
B Physics—[Resigned.]
C. Chemistry—J. W. LANGLEY, of Ann Arbor.
D. Mechanical Science—[Resigned.]
E. Geology and Geography—ALEXIS A. JULIEN, of New York.
F. Biology—S. A. FORBES, of Normal.
G. Histology and Microscopy—CARL SEILER, of Philadelphia.
H. Anthropology—G. H. PERKINS, of Burlington.
I. Economic Science and Statistics—[Absent.]

TREASURER.

WILLIAM LILLY, of Mauch Chunk.

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MEMBERS

OF THE

STANDING COMMITTEE

FOR THE

MINNEAPOLIS MEETING.

Past Presidents.—JAMES D. DANA, of New Haven; JAMES HALL, of Albany; ISAAC LEA, of Philadelphia; F. A. P. BARNARD, of New York; J. S. NEWBERRY, of New York; B. A. GOULD, of Boston; T. STERRY HUNT, of Montreal; ASA GRAY, of Cambridge; J. LAWRENCE SMITH, of Louisville; JOSEPH LOVERING of Cambridge; JOHN L. LECONTE, of Philadelphia; J. E. HILGARD, of Washington; SIMON NEWCOMB, of Washington; O. C. MARSH, of New Haven; GEORGE F. BARKER of Philadelphia; GEORGE J. BRUSH, of New Haven; J. W. DAWSON, of Montreal.

Vice Presidents of the last Meeting.—WM. HARKNESS, of Washington; T. C. MENDENHALL, of Columbus; H. C. BOLTON, of Hartford; W. P. TROWBRIDGE, of New Haven; E. T. COX, of San Francisco; W. H. DALL, of Washington; A. H. TUTTLE, of Columbus; DANIEL WILSON, of Toronto; ALEXANDER WINCHELL, of Ann Arbor; E. B. ELLIOTT, of Washington.

Officers of the present meeting:—C. A. YOUNG, of Princeton; W. A. ROGERS, of Cambridge; H. A. ROWLAND, of Baltimore; EDWARD W. MORLEY, of Cleveland; DE VOLSON WOOD, of Ithaca; C. H. HITCHCOCK, of Hanover; W. J. BEAL, of Lansing; J. D. COX, of Cincinnati; O. T. MASON, of Washington; F. B. HOUGH, of Lowville; F. W. PUTMAN, of Cambridge; ALFRED SPRINGER, of Cincinnati; J. R. EASTMAN, of Washington; A. A. JULIAN, of New York; S. A. FORBES, of Normal; CARL SEILER, of Philadelphia; G. H. PERKINS, of Burlington; WILLIAM LILLY, of Mauch Chunk.

From the Association at large.—One Fellow to be elected from each Section.

☞ Regular meetings of the Committee at 9 a. m. each day at the University.

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LOCAL COMMITTEE

FOR THE

MINNEAPOLIS MEETING.

GENERAL EXECUTIVE COMMITTEE.

CHAIRMAN.

HON. GEORGE A. PILLSBURY.

SECRETARY.

PROF. N. H. WINCHELL.

Hon. GEORGE A. BRACKETT, Hon. A. C. RAND, Hon. JOHN DE LAITTRE. W. W. MCNAIR, ESQ., Hon. JOHN S. PILLSBURY, DR. W. W. FOLWELL, Hon. CHARLES W. JOHNSON, Gen. A. B. NETTLETON, Hon. W. D. WASHBURN, Mr. T. B. WALKER, Hon. O. C. MERRIMAN, Hon. EUGENE M. WILSON, Mr. E. V. WHITE, Mr. H. T. WELLES, Hon. H. G. HICKS, THOMAS LOWRY, ESQ., Mr. WINTHROP YOUNG, Hon. WILLIAM S. KING, DAVID BLAKELY, ESQ., Hon. R. B. LANGDON, Supt. D. L. KIEHLE, I. C. SEELEY, ESQ., Mr. ANTHONY KELLEY, Dr. A. F. ELLIOTT, Hon. F. W. BROOKS.

COMMITTEE OF ALDERMEN FROM THE CITY COUNCIL.

M. W. Glenn, *Chairman*, F. L. Greenleaf, E. Eichhorn, N. H. Roberts, Matthew Walsh, E. M. Johnson, S. P. Channell.

SUB-COMMITTEE ON INVITATION AND RECEPTION.

Dr. W. W. Folwell, *Chairman*, Mr. D. C. Bell, Hon. E. M. Wilson, Mr. Samuel Hill, Hon. C. M. Loring, Hon. C. A. Pillsbury, Hon. A. A. Ames, (Mayor), Hon. J. B. Gilfillan, Rev. J. H. Tuttle, Hon. H. G. Hicks, Gen. A. B. Nettleton, Rev. Jas. McGolrick, Bishop Cyrus D. Foss, Mr. C. McC. Reeve, Prof. M. Marston, Dr. Geo. F. French, Dr. C. L. Wells, V. S. Ireys, Esq., Rev. D. B. Knickerbacker, Mr. R. E. Grimshaw, Hon. A. C. Rand, S. C. Gale, Esq., W. W. McNair, Esq., Rev. C. A. Van Anda, Mr. O. A. Pray, Judge C. E. Vanderburg, Mr. B. F. Nelson, Robert S. Innes, Esq., Dr. H. H. Kimball, I. C. Seeley, Esq., Mr. R. J. Mendenhall, Mr. S. A. Harris, Prof. S. Oftedal, Dr. W. H. Leonard, Mr. C. F. Hatch, Col. Fred Hooker, Judge William Lochren, Hon. D. Morison, Hon. N. F. Griswold, Mr. J. W. Griffin, Mr. T. B. Cary, Rev H. C. Woods. J. B. Atwater, Esq., Mr. W. E. Burwell, Mr. Winthrop Young, Rev. Robert Forbes, Col. R. C. Benton, Judge John P. Rea, Rev. R. F. Sample, Col. William McCrory, Mr. G. A. Wheaton, Mr. J. T. Elwell, Mr. C. H. Prior, Mr. T. F. Andrews, Hon. R. B. Langdon, Mr. J. N. Nind, Hon. R. Chute, Mr.

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George H. Christian, Rev. R. G. Hutchins, Judge A. H. Young, Mr. George A. Camp, Mr. Clinton Morrison, Judge J. M. Shaw, Capt. J. C. Whitney, Hon. Loren Fletcher, Mr. John Crosby, Judge G. B. Cooley, Mr. J. H. Clark, Prof. Jabez Brooks, Mr. W. H. Hinkle, Capt. J. N. Cross, Mr. G. H. Clinton, Mr. A. C. Loring, Hon. C. W. Johnson, Hon. O. C. Merriman and Aldermen W. M. Glenn, S. P. Channell, Mathews Walsh. N. P. Roberts and E. M. Johnson.

LADIES' RECEPTION COMMITTEE.

Mrs. J. S. Pillsbury, *Chairman*, Mrs. Richard Chute, Miss Maria Sanford, Mrs. N. H. Winchell, Mrs. W. W. Folwell, Mrs. J. B. Gilfillan, Miss Addie Pillsbury, Miss Emily McMillan, Mrs. L. W. Campbell, Mrs. F. C. Barrows, Miss Lettie Crafts, Miss Addie Camp.

SUB-COMMITTEE ON ROOMS AND PLACES OF MEETING.

Hon. E. M. Wilson, *Chairman*, Hon. R. B. Langdon, Hon. C. W. Johnson, Mr. Anthony Kelley, Dr. A. F. Elliott, Hon. C. M. Loring, Prof. J. A. Dodge.

SUB-COMMITTEE ON ENTERTAINMENT, HOTELS, LUNCHEONS AND LODGINGS.

Hon. A. C. Rand, *Chairman*, Mr. R. F. Jones, Stephen Mahoney, Esq., Hon. Geo. A. Brackett, George H. Fletcher, Esq., Dr. F. A. Dunsmoor, Mr. T. B. Walker, R. S. Innes, Esq., Dr. Charles Simpson, Mr. W. M. Tenny, Fred Lathrop, Esq., Dr. A. W. Abbott, Mr. Wesley Neil, Mr. J. F. Collum, T. E. Byrnes, Esq., Prof. William J. Warren, Mr. Charles R. Chute, E. Chatfield, Esq., Hon. D. L. Kiehle, Prof. J. F. Downey, Mr. C. C. Sturtevant, Dr. P. L. Hatch.

SUB-COMMITTEE ON FINANCE.

I. C. Seeley, Esq., *Chairman*, Mr. H. G. O. Morrison, Mr. N. F. Griswold, Mr. O. T. Swett, J. W. Perkins, Esq., Mr. S. B. Lovejoy, Judge Francis B. Bailey, Mr. Albert Hastings, Hon. Josiah Thompson, Jr., Frank H. Carleton, Esq., Hon. H. T. Welles, Hon. F. W. Brooks, Mr. Isaac McNair and Aldermen W. M. Glenn and S. P. Roberts.

SUB-COMMITTEE ON PRINTING AND ADVERTISING.

Mr. David Blakely, *Chairman*, Mr. C. A. Nimocks, Gen. A. B. Nettleton, Hon. W. S. King, Prof. C. W. Hall.

SUB-COMMITTEE ON TRANSPORTATION AND EXCURSIONS.

Thomas Lowery, Esq , *Chairman*, Hon. W. D. Washburn, Mr. C. F. Hatch, Mr. E. V. White, Mr. John Crosby, Mr. W. H. Hinkle, Hon. J. S. Pillsbury, Mr. Llewellyn Christian, Hon. J. B. Bassett, Mr. C. H. Prior, Mr. A. H. Bode, Mr. W. H. Truesdale, Col. William McCrory.

SUB-COMMITTEE ON AUDITING ACCOUNTS.

E. M. Loring, Alderman Eichhorn and Alderman F. L. Greenleaf.

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ANNOUNCEMENTS OF THE LOCAL COMMITTEE.

The Meeting opened at 10 o'clock Wednesday morning, in the Chapel of the University. After the General Session, daily, the different Sections will convene in the rooms of the University as designated on another page.

Members will find post-office, express, telegraph and telephone facilities in the Main Building. Free telephone connections are made with the city, and with St. Paul. The Western Union Telegraph Company has also liberally placed instruments in the building for the free transmission of social, scientific and family messages for members.

Upon registering at the desk of the LOCAL SECRETARY, each member will receive a badge of red ribbon prepared by the Local Committee, carrying a number expressing his registration. Members are expected to wear these during the session of the Association. The members of the Local Committee will wear a similar badge underlain with white. The Sub-Committee on Entertainment, Hotels, Luncheons and Lodgings will wear a badge of red, white and blue, and reporters for the press will wear a distinguishing badge of straw-colored ribbon.

The hand-book of the city of Minneapolis will be given to all registered members of the Association.

Hack-fares are limited by a city ordinance, as follows:

Between 5 a. m. and 10 p. m. for any distance not exceeding a mile, for each passenger 25 cents, but for children under twelve years of age, 15 cents; for any greater distance within the city, between the same hours, double the above rates. Hand-baggage free; trunk 25 cents extra. After 10 p. m. till 5 a. m. double the foregoing rates may be charged. Hacks and omnibuses marked A. A. A. S. will carry members of the Association at reduced rates.

The Street Railway company have arranged to carry members to their station near the University for a single fare from any part of the city.

The Standing Committee will meet daily at the University, at 9 o'clock, in the room assigned to section A. An omnibus will leave the city hotels in time for

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this meeting, departing from the Nicollet House at 8:30 o'clock. The evening meetings of this Committee will be at the Nicollet House.

Members are cordially invited to visit, the rooms of the Minnesota Academy of Natural Sciences, at 110 and 112 Hennepin avenue, third floor, between 1 and 6 p. m. A committee to represent the academy consists of Dr. A. F. Elliott, Dr. W. E. Leonard, Rev. James McGolrick, and Messrs. W. A. Noyes, Thomas S. Roberts and Warren Upham.

The Directors of the Young Men's Christian Association extend a cordial invitation to the members of the American Association to visit their rooms in the Syndicate Block, 519 and 521 Nicollet Avenue. H. E. Fletcher, *President*. John H. Elliott, *Secretary*.

The Michigan University Association of Minneapolis, desire to make the acquaintaince of all students and teachers of the University of Michigan that may be in attendance at this meeting of the Association. For that purpose they are requested to register their names at the post-office of the Association at the University, in the book there provided.

Superintendent Temple, of the Northwestern Erie Telegraph and Telephone Co., entends the service of the Local Exchange to members and guests, and would appreciate an inspection of the operating department situated in City Hall.

The Association post-office and express-office will be found at the main building of the University, at the left of the front entrance to the basement story. The office will be open from 8 a. m. to 6 p. m. daily, except Sunday, when it will be open from 2 to 4 o'clock p. m. Mail will arrive at the University about 10 a. m., and about 4:30. Mail will leave at about the same time.

The City Directory and the Railway time tables will be found at the rooms of the Local Committee, at the University.

Tickets to the daily luncheon will be furnished free to all members, by representatives of the Local Committee at the University.

NOTICE TO MEMBERS OF THE LOCAL COMMITTEE.

The *General Executive Committee* will meet daily at the President's room at the University, at 9 o'clock A. M., during the continuance of the session.

Members of *The Ladies' Reception Committee* will be in attendance at the Ladies' Parlor at the University daily during the continuance of the session.

The *Sub-Committee on Entertainment* will be present daily, to give general directions concerning the luncheon and to answer inquiries concerning lodgings.

The Sub-Committee on *Invitation and Reception* will be present at the Nicollet House, at the Reception given by the Local Committee, on Wednesday evening.

All members of the Local Committee can become members of the Association without personal election, by payment of the membership fees to the Permanent Secretary, and registration.

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Committee room of Sec. A. Room No. 40.....Second Floor.
SEC. B. Physics, Prof. Moore's lecture room, No. 35.....Second Floor.
Committee room of Sec. B. opposite side of the hall.....Second Floor.
SEC. C. Chemistry, Prof. Brooks' room, No. 39.....Second Floor.
Committee room of Sec. C. Prof. Dodge's study.....Ag'l College.
SEC. D. Mechanical Science, Mrs Wilkins' class room, No. 31....First Floor.
Committee room of Sec. D., No. 30.. .. ..First Floor.
SEC. E. Geology and Geography, Society room No. 4.....Basement Floor.
Committee room of Sec. E., President's lecture room, No. 3 Basement Floor.
SEC. F. Biology, Society room, No. 6.....Basement Floor.
Committee room of Sec. F. President's lecture room, No. ? Basement Floor.
SEC. G. Histology and Microscopy, English Literature lecture room, No.—.....Second Floor.
Committee room of Sec. G. study attached.....Second Floor.
SEC. H. Anthropology, Chapel.... .....Third Floor.
Committee room of Sec. H. back part of stage.....Third Floor.
SEC. I. Economic Science and Statistics, Prof. Hutchinson's room, No. 43..... .....Second Floor.
Committee room of Sec. I. study attached.....Second Floor.
WRITING AND READING ROOM. Library reading room, No. 20...First Floor.
LOCAL COMMITTEE. President's room, No. 19.....First Floor.
LADIES' RECEPTION ROOM. Ladies' Parlor, No. 21.....First Floor.
PERMANENT SECRETARY. Miss Sanford's lecture room and study, Nos. 23 and 27..... .. ..First Floor.
POST OFFICE AND EXPRESS. No. 2..... .....Basement Floor.
TELEGRAPH AND TELEPHONE. No. 18..... .... First Floor.
NEWS STAND. At the end of the hall.....First Floor.

THE CHURCH OF THE REDEEMER.

COR. 8TH STREET AND 2D AVENUE SOUTH.

Lecture by F. W. Putnam. Archæological Explorations in the Ohio Valley, "Altar Mounds and their contents." Illustrated by Diagrams and Lantern pictures, this evening, at 8 o'clock.

THE PLYMOUTH CHURCH.

COR. NICOLLET AVENUE AND 8TH STREET.

Will be used for one of the evening lectures, to be announced later.

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ANNOUNCEMENT OF THE PERMANENT SECRETARY.

Members will please call at the office of the Permanent Secretary, at the University, as soon as possible after arrival, to receive their members' tickets.

All assessments and admission-fees must be paid at the office of the Permanent Secretary, and the assessment for the meeting must be paid before registering with the Local Secretaries.

A list of newly elected members will be kept at the office of the Permanent Secretary, and the admission fee of $5.00 and assessment of $3.00 must be paid before membership is secured.

Members will please report any change of permanent address, or the decease of other members, at the office of the Permanent Secretary.

Blanks for entering the Titles of Communications and for Recommendation to Membership can be obtained at the office of the Permanent Secretary.

A subscription-list for the Minneapolis volume of proceedings will be opened at the office of the Permanent Secretary; and subscriptions are solicited from friends of the Association, and from such members as wish to obtain duplicate copies of the volume. Every person subscribing $1.50 or more, will receive a copy of the volume, by mail, as soon as published.

The volumes of the Proceedings of the Association can be obtained from the Permanent Secretary at the price of $1.50 per volume; or any member wishing for ten or more volumes, in order to complete a set, may obtain them at $1.00 per volume. The volumes may be had bound in cloth for the extra price of 50 cts. each, or in half morocco for the extra price of $1.00 each. Uniform cloth covers for the volumes will be furnished by mail at 30 cts. each, or by express for 25 cts. each. Copies of volumes 2, 22 and 28, will be received in exchange for other volumes, or will be purchased at $1.00 each.

The Memoir on Fossil Butterflies, by Mr. S. H. Scudder, published by the donation of Mrs. Elizabeth Thompson, 4to, 1875, will be furnished at $2.00 a copy, or at $3.50 bound in half morocco. The Transactions of the American Association of Geologists and Naturalists, 1 Vol., 8vo., 1843, bound in cloth, can be obtained at $3.00 a copy, or bound in half morocco, uniform with the Proceedings, for $4.00.

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At the Boston meeting the Standing Committee called attention to the importance of re-printing several volumes of the Proceedings of the Association, but stated that this could not be done without the liberal assistance of members and others interested, and asked for subscriptions for this purpose. As full sets of the Proceedings are in demand, particularly in consequence of the late increase in membership, it is hoped that the necessary means will be secured for this purpose. Volume 26 was re-printed last year, and volume 27 is now in the printer's hand. The re-printing of two other volumes is now desirable. Subscriptions of any amount are therefore earnestly solicited, and all such will be acknowledged by the *Permanent Secretary*, by letter, and also in a printed list of subscribers.

The publication of the MONTREAL VOLUME was delayed by a combination of causes. It is now being mailed from Salem to every member who paid the Montreal assessment previous to August 5th. Those paying since that date, and those paying back-assessments at Minneapolis, will receive the volumes which they are entitled by mail in September.

ANNOUNCEMENT OF THE STANDING COMMITTEE.

THE STANDING COMMITTEE calls the attention of members to the enlarged scope of the Association, and the consequent changes in the Sections, resulting from the adoption of the amendments to the Constitution at Cincinnati, which took effect at the last meeting. There are now nine Sections of equal standing, each presided over by a Vice-President, and having its own Secretary and Sectional Committee, as follows:—

Sec. A.—MATHEMATICS AND ASTRONOMY. *Sec. B.*—PHYSICS. *Sec. C.* CHEMISTRY, including applications to Agriculture and the Arts. *Sec. D.*—MECHANICAL SCIENCE. *Sec E.*—GEOLOGY AND GEOGRAPHY. *Sec. F.* BIOLOGY. *Sec. G.*—HISTOLOGY AND MICROSCOPY. *Sec. H.*—ANTHROPOLOGY. *Sec. I.* ECONOMIC SCIENCE AND STATISTICS.

Attention is requested to the following extracts from the Constitution of the Association, and to the statement in relation to papers.

MEMBERS, FELLOWS, LIFE MEMBERS AND PATRONS.

ART. 3. Any person may become a Member of the Association upon recommendation in writing by two members or fellows, nomination by the Standing Committee, and election by a majority of the members and fellows present in General Session.

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(Blank forms for recommendation to membership will be furnished on application to the Permanent or Local Secretaries. Recommendations should reach the General Secretary as early as possible each day.)

ART. 4. Fellows shall be nominated by the Standing Committee from such of the members as are professionally engaged in science, or have by their labors aided in advancing science. The election of fellows shall be by ballot and a majority vote of the members and fellows present in General Session.

ART. 5. Any person paying to the Association the sum of one thousand dollars shall be classed as a Patron, and shall be entitled to all the privileges of a member and to all its publications.

ART. 7. The name of any member or fellow two years in arrears for annual dues shall be erased from the list of the Association, provided that two notices of indebtedness, at an interval of at least three months, shall have been given; and no such person shall be restored until he has paid his arrearages or has been re-elected.

ART. 34. The admission fee for members shall be five dollars in addition to the annual assessment. On the election of any member as a fellow an additional fee of two dollars shall be paid.

ART. 35. The annual assessment for members and fellows shall be three dollars.

ART. 36. Any member or fellow who shall pay the sum of fifty dollars to the Association, at any one time, shall become a Life Member, and as such shall be exempt from all further assessments, and shall be entitled to the Proceedings of the Association. All money thus received shall be invested as a permanent fund, the income of which shall be used only to assist in original research, unless otherwise directed by the unanimous vote of the Standing Committee.

ART. 37. All admission fees and assessments must be paid to the Permanent Secretary (or his assistant), who shall give proper receipts for the same.

PAPERS.

ART. 28. All members and fellows must forward to the Permanent Secretary, as early as possible, and, when practicable, before the convening of the Association, full titles of all the papers which they propose to present during the meeting, with a statement of the time that each will occupy in delivery, and also such abstracts of their contents as will give a general idea of their nature; and no title shall be referred by the Standing Committee to the Sectional Committee until an abstract of the paper or the paper itself has been received.

ART. 25. A paper shall not be read in any Section or Sub-section until it has been received from the Standing Committee and placed on the programme of the day by the Sectional Committee.

*** The titles of papers will not hereafter be given until they are put on the programme by the Sectional Committees. It is particularly requested that the abstracts be prepared *ready for printing* in the volume of Proceedings. Blank forms for giving the titles and abstracts of papers will be furnished by the Permanent Secretary on application. The Standing Committee particularly call attention to the fact that *papers cannot be received after Saturday, noon, Aug.* 18.

At the Montreal meeting of the Standing Committee it was determined to adopt the plan of *printing abstracts of all the papers read* before the Sections in the Proceedings, provided suitable abstracts were prepared by authors; unless by a special vote, on recommendation of a Sectional Committee, it should be decided to print the paper by title only, or, in exceptional cases, in full.

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FRIDAY, AUGUST 17.

MORNING.

Meeting of the STANDING COMMITTEE at 9 o'clock, at the University.

GENERAL SESSION in the Chapel at 10 o'clock.

A short paper by DR. T. STERRY HUNT, on "A Classification of the Natural Sciences," will be read in General Session.

Meetings of the SECTIONS directly after the adjournment of the General Session.

AFTERNOON.

Recess for lunch from 1 to half-past 2 o'clock.
Meeting of the SECTIONS at half past 2 o'clock.

EVENING.

AT THE CHURCH OF THE REDEEMER,

COR. 8TH STREET AND 2D AVENUE SOUTH.

Lecture by F. W. Putnam, Archæological Explorations in the Ohio Valley, "Altar Mounds and their contents," Illustrated by Diagrams and Lantern pictures, 8 p. m.

SECTION A.—MATHEMATICS AND ASTRONOMY.

(Will meet in Room 38, Second Floor.)

Vice-President.—WILLIAM A. ROGERS, of Cambridge, Mass.
Secretary.—G. W. HOUGH, of Chicago.

Member of Standing Committee.

E. S. HOLDEN, Madison, Wis.

Sectional Committee.

J. R. EASTMAN, H. T. EDDY, E. W. HYDE.

Member of Nominating Committee.

S. J. COFFIN.

Sub-Committee on Nominations.

A. B. NELSON, C. J. SMITH, EDGAR FRISBIE.

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PAPERS TO BE READ ON FRIDAY MORNING, IN SECTION A.

115. Physical phenomena on the planet Jupiter. (30 m.).....G. W. HOUGH..
127. Observations of the Total Solar Eclipse of May 6th, 1883..DR. J. JANSSEN.
6. Some hitherto undeveloped properties of Squares. (25 m.), O. S. WESTCOTT.
90. On the light variations of T. Monocerotis. (5 m.)... ....E. F. SAWYER.
10. Orbit of the great Comet of 1882. (15 m.).....EDGAR FRISBIE.
116. The rotation of domes. (10 m.).....G. W. HOUGH

SECTION B.—PHYSICS.

(Will meet in Room 35, Second Floor.)

Vice President.—H. A. ROWLAND, of Baltimore, Md.

Secretary.—F. E. NIPHER, of St. Louis.

Member of the Standing Committee.

LE ROY C. COOLEY, of Poughkeepsie.

Sectional Committee.

THEO. F. JEWELL, W. A. ANTHONY, H. S. CARHART.

Member of Nominating Committee.

H. R. GOODNOW,

Sub-Committee on Nominations.

T. C. MENDENHALL, C. F. BRACKETT.

PAPERS TO BE READ IN SECTION B.—FRIDAY AFTERNOON.

30. The Tornado of May 18th. (10 m.)..... .....J. H. FRICK.
17. The Static Telephone. (30 m.)..... ... .A. E. DOLBEAR.
118. Magnetic survey of Missouri. (3 m.)..... .....F. E. NIPHER.
126. A method of distributing weather forecasts by means of railways. (5 m.).....T. C. MENDENHALL.
119. Plan for a state weather service. (8 m.).....F. E. NIPHER.

ERRATA.—In the title for paper No. 5 for 3.390730 read 3.37030.

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SECTION C.—CHEMISTRY.

(Will meet in Room 35, Second Floor.)

Vice-President.—EDWARD W. MORELY, of Cleveland, O.

Secretary.—J. W. LANGLEY, of Ann Arbor, Mich.

Member of the Standing Committee.

C. LEO MEES, of Columbus.

Sectional Committee.

WM. C. MIXTER, ROBT. B. WARDER, A. P. STUART.

Member of Nominating Committee.

E. L. STURTEVANT,

Sub-Committee on Nominations.

A. SPRINGER, H. H. DINWIDDIE, JAS. A. DODGE.

PAPERS TO BE READ ON FRIDAY MORNING.

94. The composition of American wheat and corn. (—m).
CLIFFORD RICHARDSON.

62. Twelve months of Lysimeter record at the New York Agricultural experiment station. (10 m.).....E. L. STURTEVANT.

79. American Butters and their adulterations. (20 m.).....H. W. WILEY.

SECTION D.—MECHANICAL SCIENCE.

(Will meet in Room 21, First Floor.)

This Section will meet for organization this morning.

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SECTION E.—GEOLOGY AND GEOGRAPHY.

(Will meet in Room 4, Basement Floor.)

Vice-President.—C. H. HITCHCOCK, of Hanover, N. H.
Secretary.—A. A. JULIEN, of New York, N. Y.

Member of Standing Committee,

E. W. CLAYPOLE, of New Bloomfield.

Sectional Committee.

J. W. SPENCER, T. C. CHAMBERLIN, W. UPHAM.

Member of Nominating Committee,

N. H. WINCHELL.

Sub-Committee on Nominations.

E. ORTON, J. F. JAMES, J. W. POWELL.

PAPERS TO BE READ IN SECTION E. ON FRIDAY.

84. The Minnesota valley in the Ice Age. (Read Thursday afternoon.) .....WARREN UPHAM.
105. On the ancient Glaciation of North America; its extent, character and teachings. (20 m.).... .....J. S. NEWBERRY.
110. Result of explorations of the Glacial boundary between New Jersey and Illinois. (30 m.).....G. F. WRIGHT.
128. On the Terminal Moraine west of Ohio..... .....T. C. CHAMBERLIN.
109. Relation of the Glacial dam at Cincinnati to the terrace in the upper Ohio and its tributaries. (— m.)..... ... I. C. WHITE.
85. Changes in the currents of the ice of the last Glacial Epoch in Eastern Minnesota. (10 m.) ... .WARREN UPHAM.
103. The Kame rivers of Maine. (20 m.) .....G. H. STONE.
96. Evidences from Southern New England against the Iceberg Theory of the Drift. (10 m).....J. D. DANA.
45. Animal remains from the Loess and Glacial clays. (10 m.)..WM. MCADAMS.
103. On the Eroding power of Ice. (15 m.).... .....J. S. NEWBERRY.
37. On the Hamilton Sandstone of middle Pennsylvania (20 m.) E. W. CLAYPOLE
80. The Pre-Cambrian rocks of the Alps. (25 m.)..... T. STERRY HUNT
86. The "Earthquake" at New Madrid, Mo., in 1811, probably not an earthquake. (—m.).....JAMES MACFARLANE.
91. On the Serpentine of Staten Island, New York. (10 m.) T. STERRY HUNT.
107. On the genesis and classification of mineral veins. (15 m). J. S. NEWBERRY.

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SECTION F.—BIOLOGY.

(Will meet in Room 6, Basement Floor.)

Vice-President.—W. J. BEAL, of Lansing, Mich.
Secretary.—S. A. FORBES, of Normal, Ill.

Member of Standing Committee.

O. S. WESTCOTT.

Sectional Committee.

C. E. BESSEY, W. R. LAZENBY, E. D. COPE.

Member of Nominating Committee.

D. S. KELLICOTT.

Sub-Committee on Nominations.

HERBERT OSBORN, J. H. COULTER, W. G. FARLOW.

PAPERS TO BE READ IN SECTION F. ON FRIDAY.

48. An abnormal Orchid; Habenaria hyperborea. (10 m.)...W. R. DUDLEY.
49. Origin of the Flora of the central New York lake region. (10 m.).....W. R. DUDLEY.
114. Development of a dandelion flower. (10 m.) .....J. M. COULTER
117. Leaves of the Gramineae with closed sheaths. (5 m.).....W. J. BEAL.
120. A supposed poisonous seaweed in the lakes of Minnesota. (15 m.).....J. C. ARTHUR.
121. The position of the Compositae in the natural system (5 m.) JOSEPH F. JAMES.
123. On the use of vaseline to prevent the loss of alcohol from specimen jars. (2 m.)..... ....B. G. WILDER and S. H. GAGE.
97. The application of Nitrous Oxide and Air to produce Anæsthesia. With clinics on animals in an experimental air chamber. (30 m.)..... .....E. P HOWLAND.
112. On two primitive types of Ungulata. (10 m.).....E. D. COPE.
111. Note on Phytoptidae. (5 m.) .....HERBERT OSBORN.
124. Notes on the potato beetle and the Hessian fly for 1883. (15m) E. W. CLAYPOLE.
63. Oyster farming in Connecticut. (35 m.).....H. C. HOVEY.

SECTION G.—HISTOLOGY AND MICROSCOPY.

(Will meet in room on Second Floor.)

Vice President.—J. D. COX, of Cincinnati, O.
Secretary pro tem.—W. H. WALMSLEY, of Philadelphia, Pa.

Member of Standing Committee.

WILLIAM LILLY, of Mauch Chunk.

Sectional Committee.

W. J. BEAL, T. C. MENDENHALL, W. A. ROGERS.

Member of Nominating Committee.

C. V. RILEY.

Sub-Committee on Nominations.

W. H. WALMSLEY, C. LEO MEES, D. S. KELLICOTT.

Special meeting of all interested in this SECTION is called for this morning.

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SECTION H.—ANTHROPOLOGY.

(Will meet in the Chapel, Third Floor.)

Vice President.—O. T. MASON, of Washington, D. C.
Secretary.—G. H. PERKINS, of Burlington, Vt.

Member of Standing Committee.

E. S. MORSE, Salem, Mass.

Sectional Committee.

P. R. HOY, F. W. PUTNAM, N. S. TOWNSHEND.

Nominating Committee.

NATHANIEL PAINE.

PAPERS TO BE READ IN SECTION H.—FRIDAY.

51. Indoor games of the Japanese. (— m.).....E. S. MORSE
54. The great mounds of Cahokia. (10 m.).....WM. MCADAMS.
55. Life among the Mohawks in the Catholic missions of Quebec Province. (25 m.).....MRS. ERMINNIE A. SMITH.
56. Metrical standard of the Mound Builders—by the method of even divisors. (12 m.).....CHAS. WHITTLESEY.
57. The Mound Builders identified. (20 m.).....JOHN CAMPBELL.
71. An abnormal human skull from a stone grave in Tennesee. (5 m.) ... . F. W. PUTNAM.
75. Typical shapes among the Emblematic mounds. The different attitudes exhibited by the same animal. (10 m.)..... S. D. PEET.
58. Personal observations, of the Missouri River mounds from Omaha to St. Louis; considered from a geological standpoint. Their invariable association with the Leoss and Terrace formation. (15 m.)..... .....E. P. WEST.
59. Osage war customs. (60 m).....J. O. DORSEY.
83. Some observations on the laws and privileges of the Gens in Indian Society. (8 m.).....MRS. A. C. FLETCHER.
74. An ancient village of the Emblematic Mound Builders. Caches guarded by effigies. Effigies guarding the village, and sacrifial places not far away. (15 m.)..... .....S. D. PEET.

SECTION I.—ECONOMIC SCIENCE AND STATISTICS.

(Will meet in room 43, Second Floor.)

Vice President.—FRANKLIN B. HOUGH, of Lowville, N. Y.
Secretary.—JOSEPH CUMMINGS, Evanston, Ill.

Special meeting of all interested in this Section is called for this morning.

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MEMBERS ELECTED.

AUGUST 15, 1883.

Cornelius R. Agnew, 266 Madison av., N. Y.
Henry Apthorp, Supt. Tel. S. S. & M. S. R. R., Ashtabula, Ohio.
Miss Frane E. Babbitt, Little Falls, Morrison Co. Minn.
Francis L. Bardeen, Washington College. Chestertown, Md.
Mr. Robert P. Bigelow, Washington, D. C.
Dr. John Shaw Billings, Washington, D. C.
Judge Albert G. Brice, New Orleans, La.
Prof. James Austin Burns, Southern Medical College, Atlanta, Ga.
Hon. William M. Burwell, New Orleans, La.
Nathan Butler, C. E., Minneapolis, Minn.
Mr. George W. Cable, New Orleans, La.
Mr. Louis George Carpenter, Agricultural College, Lansing, Mich.
Prof. Louis M. Cheesman, Hartford, Ct.
Rev. Charles J. Collins, Harrison, Westchester Co., N. Y.
John M. Coulter, Crawfordsville, Ind.
Mr. Andrew S. Cutler, Kankakee, Ill.
Mr. Edmund L. Dana, Wilkesbarre, Pa
Prof. Hardaway Hunt Dinwiddie, A. M., College of Texas, College Station, Brazos Co., Texas.
Harlow W. Eaton, Louisville. Ky.
Mrs. Sarah B. Elder, New Orleans, La.
Mr. Frederick Butler Embick, Williamsport, Penn.
Mr. Samuel Emerson, New York, N.Y.
Geo H. Failyer, Manhattan, Kan.
Thomas Farden, Rugby, Morgan Co., Tenn.
Henry R. Goodnow, Johns Hopkins, University, Baltimore.
Dr. Elisha Gray, Highland Park, Ill.
Prof. Lewis M. Haupt, Univ. of Penn., Philadelphia, Pa.
Mr. E. A. Hayes, Randolph, N. Y.
Joseph E. Herman, Acushent, Mass.
Dr. Daniel P. Hicklin, Georgetown Univ., Washington, D. C.
Gen. Samuel B. Holabird, Quartermaster General, U. S. A., Wash., D. C.
Richard L. Howell, C. E., Millville, N. J.
J. C. Hutchinson, Monmouth, Ill.
Clarence E. Kelley, Haverhill, Mass.
Mr. John Leslie, Makeever, Osceola, Polk Co., Neb.
Rev. James McGobrick, Minn.
Mr. Charles Mc K. Leosen, New York, N. Y.
Rev. J. H. McIlvain, D. D., Newark, N. J.
Dr. Enoch K. Miller, Liberty, Clay Co. Mo.
Miss Susannah Nunn, Boston, Mass.
Dr. Herman Emanuel Muller, Oakland, Cal.
Mr. Malcoem McNeill, Princeton, N. J.
F. T. Mnin, Lowell, Mass.
Prof. Alexander T. Ormond, Princeton N. J.
Mr. Herbert Osborn, Ames, Iowa.
Dr Luther Pattee, Manchester, N. H.
Dr. John Marshall Paul, Belvidere, N. J.
Miss Lillie J. Martin, Chicago, Ill.
Mr. Emerson W. Peet, Chicago, Ill.
Prof. Herbert B. Perkins, Lawrence Univ., Appleton, Wis.
Henry Phillips, Jr., Curator American Philosophical Society, Philadelphia, Pa.

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Mr. W. G. Platt, Philadelphia.
Dr. Julius Pohlman, Director of museum, Soc. Nat. Sci., Buffalo, N. Y.
Mrs. M. L. D. Putnam, Davenport, Ia.
Mr. Herbert S. Rice, Supt. Paper Mill, Lawrence, Mass.
Col. D. A. Robertson, St. Paul, Minn.
Prof. Charles W. Rolfe, Univ. of Ill. Champaign, Ill.
Seaman A. Knapp, Ames, Io va.
Mr. Edward E. Scribner, St. Paul, Minn.
Mr. John E Seaman, New Orleans, La
Prof. Edward M. Shelton, State Agric. College, Manhattan, Kansas.
Prof. Charles J. Smith, Adelbert College, Cleveland, Ohio.
John B. Smith, Brooklyn, N. Y.
Mrs. Elizabeth R. Stevens, Lowell, Mass.
Mr George Vasey, Botanist U. S. Dpt. Agric., Washington, D. C.
Mr. Edward P. Vining, Omaha, Neb.
Martin E. Waldstein, Ph. D., New York, N. Y.
John M. Wallis, C. E., Philadelphia, Pa.
Mr. Lemuel Weaver, Urbana, Ohio.
Judge E. P. West, Kansas City, Mo.
Calvin M. Woodward, Director Manual Training School, Wash. Univ., St. Louis, Mo.
Mr. Jacob L. Wortman, Acad. Nat. Sci., Philadelphia, Pa.
Mr. Thomas McCabe, Chief Examiner Patents, Ottawa, Canada.

AUGUST 16.

Clark F. Ansley, New Windsor, Mercer Co., Ills.
Richard O. Beard, M. D., Minneapolis, Minn.
Adolphus F. Bechdolt, Mankato, Minn.
Henry F. Blount, Evansville, Ind.
Mason Bross, Chicago, Ills.
Walter A. Carpenter, Minneapolis, Minn.
Edward Daniels, St. Paul, Minn.
Mrs. Jessie B. Lloyd, Winnetka, Ills.
M. M. Frissette, Minneapolis, Minn.
Charles T. Harris, Minneapolis, Minn.
Charles L. Harrington, Faribault, Minn.
Miss A. M. Henderson, Minneapolis, Minn.
F. H. King, River Falls, Wis.
John W. Kitchell, Pana, Christian county, Ills.
Victor F. Lawson, Chicago, Ills.
Henry D. Lloyd, Chicago, Ills.
Rev. Donald D. MacLaurin, Minneapolis, Minn.
Charles K. McGee, Ann Arbor, Mich.
William A. Noyes, Ph. D., Minneapolis, Minn.
Mrs. Ellen Beardsley Reed, Chicago, Ills.
C. C. Schmidt, Sleepy Eye, Minn.
W. H. Scofield, Cannon River Falls, Minn.
Andrew J. Scott, Loudonville, Ohio.
Miss L. C. Scott, Loudonville, Ohio.
Miss Ellen E. Smith, Painsville, Ohio.
Lyman B Sperry, Northfield, Minn.
Leander Stone, Chicago, Ills.
George Weitbrecht, St. Paul, Minn.
Andrew W. Williamson, Rock Island, Ills.

AUGUST 17.

A. E. Bigelow, D. S., Bismarck, Dak.
Mrs. Martha A. Birgham, Kansas City, Mo.
W. L. Birgham, College Station, Tex.
Miss S. M. Burnham, East Cambridge, Mass.
Mrs. Fidelia O. Case, Kansas City, Mo.
Montague Chamberlain, St. John, N.B.
Prof. Elias Colbert, Chicago, Ill.
Murat Compton, Bradford, Pa.
A. H. Conrad, Bloomfield, Ia.
Halbert D. Crawford, Ottumwa, Ia.
Ralph Dixon, Alton, Ill.
L. C. Fisher, Galveston, Tex.
Charles E. Fritts, New York City.
Hon. James G. Garrison, Henderson, Tex.
S. E. Holden, Cleveland, O.
John M. Holzinger, Winona, Minn.
T. E. Jefferson, Hudson, Wis.

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AUGUST 17.—Cintinued

Henry Gustav· Joly, Quebec, Can.
Rev. Arthur H. Pearon, Northfield, Minn.
Hon. George (Pfenffer), New Braimfels, Tex.
George P. Peffer, Pewaukee, Wis.
Edward D. Porter, Minneapolis.
Prof. John M. Richardson, Henderson. Tex.
Prof. S. G. Snead. R. M. Swearingen, M. D., Austin, Tex.
Samuel S. Taylor, St. Paul.
S. A. Thompson, Rev. F. J. Warner, Minneapolis.
Edward Wells, Wilkesbarre, Penn
James M. Wilson, M. D., Oshkosh, Wis.
Miss Minnie Wirtelle, Acton Valle, province of Quebec.

AUGUST 20.

Henry Allison, Fort Worth, Texas.
David Blakely. Minneapolis. Minn.
W. Webster Butterfield, Indianapolis, Ind.
Robert H. Crafts, Minneapolis, Minn.
Henry S. De Forest, Talladega. Ala.
Charles S. Doggett, Walpole, Mass.
John F. Downv, Minneapolis, Minn.
Frederick A. Wenth, Jr., West Philadelphia, Pa.
William H. Hale, Ph. D., Albany, N. Y.
Geo. W. Jones, Ithaca, N. Y.
E. S. Kelly, Minneapolis, Minn.
W. E. Leonard, Minneapolis, Minn.
W. H. Leonard, Minneapolis, Minn.
B. N. Lehman, Media, Pa.
L. H. McFadden. Westerville, Ohio.
J. F. Mansfield, Canneltown, Pa.
Edgar Reading, Chicago Ill.
W. H. Pratt, Stillwater. Minn.
Susan Winnfred Sewall, St. Paul, Minn.
Hannah Robie Sewall, St Paul, Minn.
C. M. Skinner, Minneapolis, Minn.
A W. Vodges, Fortress Monroe, Va.
Horace E. Wilson. Minneapolis, Minn
J. G. Willson, St. Louis, Mo.

AUGUST 21.

Charles N Ainslie, Rochester, Minn.
Joseph W. Edwards. Philadelphia, Pa.
H. N. Elmer, St. Paul, Minn.
Davis Garber, Allentown, Pa.
Robert J. Hess, Philadelphia, Pa.
Asa Hodges, Marion, Ark.
Wm. Kilgove, Minneapolis, Minn.
Mansfield Merriam, South Bethlehem, Pa.
Rebecca N. Morrison, Minneapolis, Minn
Harrison G. O. Morrison, Minneapolis, Minn.
H. C. Perry, Norfolk, Va.
Cecil H Peabody, Campaign, Ill.
M. D. Rhaine, Minneapolis, Minn.
George C. Ripley, Minneapolis, Minn.
Mrs. Geo. C. Ripley, Minneapolis, Minn.
Miss Kate Robson, Indianapolis, Ind.
George S. Spencer, St. Cloud, Minn.
Dr. R. O. Sweeny, St. Paul, Minn.
Wm. M. Tenney, Minneapolis, Minn.
Rev. J. Peter Uhler, St. Peter, Minn.

Total, 176.

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REGISTER OF ARRIVALS.

No.	*Name.*	*Permanent Residence.*	*Residence during the Meeting.*
1	C. H. Hitchcock	Hanover, N. H	At Prof. Winchell's.
2	Thos. W. D. Worthen	Hanover, N. H	Nicollet House.
3	Arthur W. West	Salem, Mass	39 Summit av. St. Paul.
4	Franklin B. Hough	Lowville, Louis co. N.Y.	818 Hennepin av.
5	Joseph Wm. Spencer	Columbia, Mo	
6	N. H. Winchell	Minneapolis	Minneapolis.
7	Alexander Rosenspitz	Portland. Oregon	333 S. 18th St.
8	C. V. Riley	Washington, D. C	Nicollet House.
9	N. D. C. Hodges	Salem, Mass	Hotel Lafayette.
10	A. P. S. Stuart	Lincoln, Neb	Nicollet House.
11	Mrs. M. E. Stuart	do	do
12	Louis L. McInnis	College Station, Texas.	do
13	Wm. C. Wyckoff	New York City	Hotel Lafayette.
14	F. W. Putnam	Cambridge, Mass	28 Nicollet House.
15	Eben Putnam	do	do
16	Miss C. A. Watson	Salem, Mass	Nicollet House.
17	James A. Dodge	Minneapolis	17 8th av. S. E.
18	P. R. Hoy	Racine, Wis	Gen. Nettleton, 921, 5th av S.
19	Jenny Hoy	do	do do
20	O. S. Westcott	Maywood, Ill	Chute Block.
21	D. L. Kellicott	Buffalo, N. Y	"
22	Rob't B. Warder	North Bend, Ohio	"
23	Tyler McWhorter	Aledo, Ill	———
24	M. A. Shephard	Lebanon, Ill	———
25	E Louis Sturtevant	Geneva, N. Y	Nicollet House.
26	N. S. Townshend	Columbus, Ohio	1st av. and 7th St.
27	F. A. Gulley	Oktibbeha Co., Miss.	Clark House.
28	William R. Lazenby	Columbus, Ohio	Nicollet House.
29	C. E. Bessey	Ames, Iowa	1404 6th St. S. E.
30	Alonzo Collin	Mount Vernon, Iowa	Chute Block.

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31	J. C. Arthur.....	Charles City, Iowa....	1401 6th St. S. E.
32	Wm. James Beal.....	Lansing, Mich.....	Nicollet House.
33	S. A. Forbes.....	Normal, Ill.....	do
34	Herman LeR. Fairchild.	New York City.....	821 5th St. S. E.
35	Wm. A. Pike.....	Minneapolis.....	1202 4th St. S. E.
36	H. T. Eddy.....	Cincinnati, Ohio.....	———
37	A. B. Nelson.....	Danville, Ky.....	———
38	John Hicks.....	Roslyn, L. I., N. Y....	Nicollet House.
39	C. A. Young.....	Princeton, N. J.	Gov. J. S. Pillsbury.
40	L. Stanley Grimes. ...	Chicago, Ill.....	Chute Blk.
41	Otis T. Mason.....	Washington, D. C.....	Clark House.
42	LeRoy C. Cooley.....	Poughkeepsie, N. Y...	St. James Hotel.
43	Mrs. J. R. Eastman....	Washington, D. C	1200, 2d av. S.
44	J. R. Eastman....	do	do
45	Mrs. Esther Hermann..	New York City.....	Hotel Lafayette.
46	Alfred Springer.... ..	Cincinnati.....	Nicollet.
47	D. V. Dean.....	St. Louis.....	do
48	C. W. Morley.....	Cleveland.....	Hotel Lafayette.
49	J. W. Daneson.....	Montreal.....	R. Chute.
50	E. T. Cox.....	New Harmony, Ind....	Nicollet House.
51	Mildred S. Cox.....	do	do
52	J. D. Cox.....	Cincinnati, O..... ...	Mr Tenney's 1200 2d av. S.
53	Edward Pennock.....	Philadelphia.....	Hotel Lafayette.
54	A. E. Highway	Cincinnati.....	Mrs. Bowen.
55	W. H. Walmsley.....	Philadelphia	Hotel Lafayette.
56	T. G. Richardson.....	New Orleans.	Hotel Lafayette.
57	Charles W. Smiley.....	Washington.....	Nicollet House.
58	Robert W. Smiley.....	do	do
59	H. S. Carhart.....	Evanston, Ill	Nicollet House.
60	Wm. J. Warren.	Minneapolis.....	———
61	Joseph F. James... .	Cincinnati.....	———
62	Milton L. Comstock....	Galesburg, Ill.....	1601, 3d av. S.
63	Mrs. C. A. Comstock ...	do	do
64	Thos. F. Moses.....	Urbana, O.....	———
65	Mrs. T. F. Moses.....	do	———
66	G. H. Perkins.....	Burlington	1815 Hawthorne ave.
67	Wm. A. Anthony.....	Ithaca, N. Y.....	———
68	Theo. F. Jewell.....	Newport, R. I.....	Hotel Lafayette.
69	Seldon J. Coffin.....	Easton, Pa	1112 Nicollet av.
70	Mrs. Leander Stone.....	Chicago, Ill.....	Dr. Hance
71	Leander Stone.....	do	do
72	C. L. Herrick.....	Minneapolis...	do
73	A. E. Dolbear.....	College Hill, Mass.....	———
74	A. F. Elliott	Minneapolis.....	———
75	H. C. Buck.....	West Somervile Mass..	———
76	J. R. Eaton.....	Liberty, Mo	———

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77	Mrs. F. D. Mott	Brooklyn, N. Y.	———
78	E. H. Canfield	Arlington	Hon. E. Langdon
79	Mrs J. R. Eaton	———	———
80	C. B. Gardner	Rochester, N. Y	———
81	Mrs. C. B. Gardner	do	———
82	Phebe W. Couzins	St. Louis	S. C. Gale.
83	G. W. Hough	Chicago, Ill	Hotel Lafayette.
84	Wm. Lilly	Mauch Chunk	Clark House.
85	Mrs. Wm. Lilly	do	do
86	Mrs. Strote	do	do
87	J. C. Foye	Appleton, Wis	National Hotel.
88	Edwin Evans	Streator, Ill	———
89	A. W. Butler	Brookville, Ind	713 Hennepin.
90	E. W. Hyde	Cincinnati, O	———
91	Jesse S. Evans	Streator, Ill	———
92	Francis E. Nipher	St. Louis, Mo	———
93	Mrs. D. V. Dean	———	Nicollet.
94	Mary E. Murtfeldt	Kirkwood, Mo	R. J. Mendenhall.
95	Augusta Murtfeldt	do	do
96	C. Leo Mees	Columbus, O	Nicollet.
97	E. S. Holden	Madison, Wis	602 10th street.
98	James Hall	Albany, N. Y	———
99	Wm. Veith	Cincinnati, O	———
100	E. P. Howland	Washington	Nicollet.
101	E Lyman Hood	Minneapolis	———
102	C. A. Du Bois	do	———
103	H. A. Rowland	Baltimore, Md	Nicollet.
104	Alexis A. Julien	New York	St. Paul.
105	Warren Upham	———	At Prof. Winchell's.
106	E. S. Morse	Salem, Mass	D. Blakely.
107	R. J. Mendenhall	Minneapolis	———
108	Wm. W. Share	New York	Nicollet.
109	Herbert B. Perkins	Appleton, Wis	National Hotel.
110	Abby G. Mendenhall	Minneapolis	
111	Edwin D. Cope	Philadelphia	Chute Block.
112	Thos. P. Baker	Millersville, Pa	813 University ave.
113	Mrs. S. W. Baker	do	do
114	Cyrus M. Warren	Brookline, Mass	Nicollet.
115	Mary C. Carniff	Newark, N. J	1012 Hawthorne ave.
116	Mary A. Baldwin	do	do
117	L. H. Trowbridge	Detroit, Mich	Nicollet,
118	Mrs. L. H. Trowbridge	do	do
119	Elizur Wright	Boston	Carroll street, St. Paul.
120	Arthur K. Rogers	Cambridge, Mass	Hotel Lafayette.
121	Mrs. W. A. Rogers	do do	1401 6th street.
122	Wm. A Rogers	do do	do do

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123	W. G. Farlow	Cambridge, Mass	Hotel Lafayette.
124	J. S. Copes	New Orleans	New Orleans.
125	Miss M. Boles	Columbia, Tenn	1415 University Ave.
126	Wm. G. Mixter	New Haven, Conn	Nicollet House.
127	Miss Alice F. Webber	Rock Island, Ills	do
128	J. M. Flint	Boston. Mass	do
129	Mrs J M. Flint	do do	do
130	Albert Lufkin	Newton Iowa	—— —
131	Mrs. Fannie Lufkin	do do	———
132	Samuel Marsden	St. Louis	———
133	Nathaniel Paine	Worcester, Mass	Hotel Lafayette.
134	J. M. Coulter	Crawfordsville, Ind	1041 6th st. S. E.
135	Julius Pohlman	Buffalo	Chute Block.
136	Louis G. Carpenter	Lansing, Mich	Clark House.
137	Chas. J. Smith	Cleveland, O	Hotel Lafayettee.
138	John Orm	Paducah, Ky	Nicollet House.
139	Mrs. John Orm	do	do
140	Malcom McNeill	Princeton, N. J	———
141	H. H. Dinwiddie	College Station, Texas	Nicollet House.
142	G. H. Failzer	Manhattan, Kansas	Clark House.
143	Lemuel Weaver	Urbana, O	713 Hennepin.
144	William R. Dudley	Ithaca. N. Y	E. J. Edwards.
145	Robert P. Bigelow	Washington	Clark House,
146	John W. Langley	Ann Arbor.	Hotel Lafayette.
147	E. W. Claypole	New Bloomfield, Pa	St. Paul.
148	Thos. S. Roberts	Minneapolis	Minneapolis
149	Lillie J. Martin	Indianapolis, Ind	89 S. 12th St.
150	Herbert Osborn	Ames, Iowa	1401 6th St. S. E.
151	M. L. D. Putnam	Davenport, Iowa	713 Hennepin ave.
152	Elizabeth D. Putnam	Davenport, Iowa	713 Hennepin ave.
153	J. P. Lesley	Philadelphia, Pa	St. Paul.
154	Mrs. Mary L. Ames	—— - —	St. Paul.
155	Wm. McAdams	Alton, Ill	Nicollet House.
156	D. A. Robertson	St. Paul, Minn	St. Paul.
157	T. C. Mendenhall	Columbus, O	Nicollet House.
158	Henry R. Goodnow	Baltimore, Md	Nicollet House.
159	G. F. Wright	Oberlin, O	927 5th ave. S.
160	Elisha Gray	Highland Park, Ill	927 5th ave. S.
161	J. C. Hutchinson	Monmouth, Ill	J. T. Grimes.
162	Mrs. J. C. Hutchinson	Monmouth, Ill	J. T. Grimes.
163	Kittie Hutchinson	Monmouth, Ill	J. T. Grimes.
164	Miss Bertha E. Lovewell	Topeka, Kansas	Clark House.
165	Mrs. H. I. Miller	Topeka, Kansas	Clark House.
166	J. T. Lovewell	Topeka, Kansas	Clark House.
167	Herbert W. Smith	St. Paul	St. Paul.
168	Joseph Ficklin	Columbia, Mo	Clark House.

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169	Benj. F. Thomas	Columbia, Mo	Nicollet House.
170	Harlow W. Ea on	Louisville, Ky	Chute block.
171	Thomas D. Robertson	Rockport, Ill	———
172	W. T. Sampson	Washington	Mr. Gale.
173	Anna Brown	Cincinnati, O	Chute Block
174	Charles P. Birge	Keokuk, Iowa	do
175	Mrs. C. P. Birge	do	do
176	Miss Kate Birge	do	do
177	Miss Fanny Birge	do	do
178	Mrs. Erminnie A. Smith	Jersey City	Hotel Lafayette
179	John Cone Kimball	Boston, Mass	do
180	W. H. Holmes	Washington	do
181	J. W. Powell	Washington	do
182	Wm. W. Payne	Northfield	General Nettleton.
183	Wm. Bross,	Chicago	Hotel Lafayette.
184	Theo. S. Case	Kansas City, Mo	Clark House
185	Mrs. Fidelia I. Case	do	do
186	Mrs. M. A. Bingham	do	do
187	Miss Jessie Raymond	Cleveland, O	do
188	E. S. Bastin	Chicago	———
189	C. M. Woodward	St. Louis	1122 Hawthorne Avenue.
190	Mrs. C. M. Woodward.	do	do
191	C. W Hall	Minneapolis	3 University Avenue N.
192	J. M. Mansfield	———	———
193	C. H. Chandler	Ripon, Wis	National Hotel.
194	T. Sterry Hunt	Montreal	1008 University Avenue.
195	Geo. F. Kunz	New York	Nicollet House.
197	H. E. Storrs	Jacksonville, Ill	———
197	Edgar G. Miller	Baltimore	Nicollet House.
198	Edward E Scribner	St. Paul	Cor. Sibley and 6th.
199	Horace C. Hovey	New Haven	18th Street and 7th Av. S.
200	Miss Maria L. Sandford	Minneapolis	———
201	Joseph Cummings	Evanston, Ill	———
202	Edgar Frisby	Washington, D. C	27 12th street.
203	Mrs. Edgar Frisby	do	do
204	N. M. Terry	Annapolis, Maryland	Hotel Lafayette.
205	Wm. M. McMurtrie	Champaigne, Ill	do
206	Geo. Vasey	Washington, D. C	———
207	Lewis M Haupt	Philadelphia. Pa	312 Summit Av., St. Paul.
208	A. S. Tiffany	Davenport, Iowa	———
209	J. R. Dodge	Washington, D. C	1309 Stevens Avenue.
210	Mrs. J. R. Dodge	do	do
211	Mrs. Geo. Vasey	Washington, D. C	111 2d St. N. E
212	Thomas French	Cincinnati, O	St James.
213	Edward Orton	Columbus, O	———
214	Mary B. Moody	Buffalo, N, Y	824 4th Avenue S.

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215	Mrs. S. A. Forbes	Normal, Ill	713 Hennepin Avenue.
216	J. B. Webb	Ithaca, N. Y	———
217	Lyman B Sperry	Northfield, Minn.	Nicollet House.
218	John W. Kitchell	Pana, Ill	———
219	W. H. Scofield	Cannon River F'ls, Min.	———
220	Samuel Hart	Hartford, Ct	Hotel Lafayette.
221	Richard O. Beard	Minneapolis	1221 Nicollet Avenue.
222	Mr. E. E. Beard	do	do
223	Mrs. Ellen B. Reed	Chicago, Ill	Cor. 11th St. & Harmon Pl.
224	Dona'd MacLaurin	Minneapolis	2114 17th Avenue S.
225	F. H. King	River Falls, Wis	Clark House.
226	A. W. Williamson	Rock Island, Ill	5 7 2d Avenue S.
227	Ellen E. Smith	Painesvill, O	Cor. 8th St. and 4th Av. S.
228	J. W. Chickering	Washington, D. C	At Pres. Folwell's.
229	Henry F. Blount	Evansville, Ind	60 Highland Avenue.
230	Lucia E. Blount	do	do
231	Andrew J. Scott	Loudonville, O	Nicollet House.
232	Miss L. C. Scott	do	do
233	Albert C. Hale	Adams Centre. N Y	do
234	William A. Noyes.	Minneapo is	1313 4th Street S. E.
235	Warren H. Manning	Reading, Mass	———
236	Sadie Manning	Lake City, Minn	———
237	M. M. Frisselle	Minneapolis	910 3rd ave. S.
238	Mrs. Norma A. Van Etten. (daughter of above).		do
239	William Saunders	London, Ont	Chute Block.
240	Miss Saunders	do	do
241	Mrs. Wm Saunders	do	do
242	Chas. K. McKee	Ann Arbor, Mich	———
243	J A. B. Stone	Detroit, Mich	1200 2nd ave. S.
244	Mrs. S. A. Richardson	New Orleans La	———
245	Mrs. S. B. Seeley	Rochester, N. Y	———
246	C. Gilbert Wheeler	Chicago, Ill	Lake Park.
247	J. S. Newberry	New York City	Nicollet House.
248	W. E. Newberry	do	do
249	Miss A. M. Henderson	Minneapolis	76 7th St. S.
250	Ben. B. Dale	Cincinnati, O	———
251	John H. Frick	Warrenton, Mo	National Hotel.
252	Geo. Weitbrecht	St. Paul	North St., St. Paul.
253	A. F. Bechdolt	Mankato, Minn	Clark House.
254	Stephen D. Peet	Clinton, Wis	Cor. Hennepin & Mary Pl.
255	Louis C. Wurtele	Acton Vale, P. Quebec. B.	
256	Alexander T. Ormund	Princton, N. J	410 7th St. S. E.
257	Selim H. Peabody	Champaign, Ill	— ——
258	Edward Daniels	St. Paul	180 West'rn Ave. St. Paul.
259	A. H. Sabin	Burlington, Vt	Clark House.
260	Ignatius Donnelly	Hastings, Minn	25 Eastman Avenue.

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261 Edgar L. Larkin .....New Windsor, Ill.. ..The Lyndale.
262 James Mac Farlane.....Towanda, Pa.....Nicollet House.
263 Mrs. James Mac Farlane. do ..... do
264 Bertha Forues.....Normal. Ill.....713 Hennepin Avenue.
265 John H. Rauch.....Chicago.....Nicollet House.
266 Mrs T. D. Robertson...Rockford, Ill.....———
267 S. A. Thompson.....Minneapolis .....1027 1st Street S.
268 Mrs. S. A. Thompson... do ..... do
269 John M. Holzinger.....Winona, Minn.....Chute Block.
270 P. J. Farnsworth.....Clinton, Iowa.....Sherman House St. Paul.
271 Mrs. P. J. Farnsworth.. do ..... do
272 A. T. Bigelow.....Bismrack, Dak.....Nicollet House.
273 Geo. P. Peffer..... Pewaukee, Wis.....14th Av. and 7th St. S. E.
274 Edward D. Porter.....Minneapolis.....State Experimental Farm.
275 Mary M. Porter..... do ..... do do do
276 H. W. Wiley.....Washington, D. C.....Nicollet House.
277 T. E. Jefferson.....Hudson, Wis.....1021. 4th St. S. E.
278 Mrs. D. Mac Laurin.....Minneapolis.....2114, 17th av. S.
279 Cecil H. Peabody.....Champaign, Ill.....———
280 Horace C. Wilson.....Minneapolis.....1514, 10th street N.
281 H. L. Cargill.....Roxbury, Mass.....Lyndale.
282 Mrs. Cargill..... do do
2 3 Geo. W. Jones.....Ithaca, N. Y.....Nicollet House.
284 L. E Holden.....Cleveland, O..... do
285 Mrs. L. E. Holden..... do do
286 Emersom W. Peet.....Philadelphia, Pa.....———
287 Wm. F. Peet.....New Haven, Conn.. ..———
288 Norman L. Baker.....———.....———
289 Z. G. Willson..... ..St. Louis.....———
290 Miss E. Mary Willson.. do ———
291 Gustavus Heinrichs.....Iowa City, Iowa.....Nicollet House.
292 Charles H. Rockwell...Tarrytown, N. Y.....Lake Park.
293 James D. Smythe.....Burlington, Iowa.... ..Metropolitan, St. Paul.
294 Edgar Reading.....Chicago.....618 1st Ave. S.
295 Emelia M. Reading.....Chicago, Illinois..... do do
296 Rebecca N. Morison...Minneapolis, Minn....1403 Nicollet Ave.
297 Harrison G. O. Morison do do do do
298 Geo. C. Ripley..... do do 33 Eastman Ave.
299 Mrs. Geo. C. Ripley.... do do do do
300 H. S. Pritchett.. .....St. Louis, Mo... .....Lake Park.
301 Mrs. H. S. Pritchett.... do do
302 Edw. H. Fitch.....Jefferson, Ohio.....Nicollet House.
303 Wm. F. Morgan.....Columbia College.....Lafayette.
304 Robert H. Crafts.... ...Minneapolis, Minn....2329 6th St. S.
305 Mrs. R. H. Crafts..... do do do do
306 Mary S. Whitstone ....Minneapolis, Minn ....212 South 9th.

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307 Arthur H. Pearson.....Northfield, Minn.....———
308 Miss Kate Robson.....Indianapolis, Ind.....86 12th St. S.
309 J. W. Edwards..... Philadelphia.....Nicollet House.
310 Mr. W. F. Sampson....———————.....Mr. S. C. Gale.
311 Henry S. DeForest.....Talladega, Ala.....17th & Nicollet Ave.
312 N. H. Hemiup.....Minneapolis.....604 5th St. S. E.
313 T. C. Chamberlain.....Beloit.....Hotel Lafayette.
314 William Gilgore.....City.....———
315 Wm. M. Canby.....Wilmington, Del.....———
316 Harry M. Newington...St. Louis .....252 Summit Ave., St. Paul.
317 H. N. Elmer.....St. Paul..... ———
318 Dr. R. O. Sweeny..... do .....———
319 Miss H. R. Sewall.....St. Paul.....———
320 Miss. S W. Sewall.....St. Paul.....———
321 Wm. H. Hale.....Albany, N. Y.....———
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THE FOLLOWING WERE ELECTED FELLOWS OF THE ASSOCIATION, —ON— TUESDAY MORNING.

Abbott, Dr. Chas. C., Trenton, N. J. (29).
Anderson, Rev. Joseph, Waterbury, Conn. (29.)
Arthur, J. C., Charles City, Iowa. (21).
Ashburner, Charles A., 907 Wolnut St., Philadelphia, Pa. (31).
Barnard, Edward E., care R. Poole, Cherry and Union Sts., Nashville, Tenn. (26).
Bartlett, Prof. Edwin J., Dartmouth Coll., Hanover, N. J. (28).
Bausch, Edward, Rochester, N. Y. (2).
Billings, Dr. John Shaw, Washington, D. C.
Backham, Dr. George E., Dunkirk, N. Y. (25).
Burr, Prof. William H., Troy, N. Y. (31).
Carpmael, Charles, Director of Magnetic Observatory, Torento, Can. (31).
Case, Col. Theo. S., Ed. Western Review of Science, Kansas City, Mo. (27).
Chandler, Prof. Chas. Henry, Ripon, Wis. (28).
Clapp, Miss Cornelia M., Mt. Holyoke Seminary, South Hadley, Mass. (31.)
Crandall, Prof. A. R., Lexington, Ky. (29).
Curtis, Dr. Lester, 1558 Wabash avenue, Chicago, Ill. (29.)
Davenport, B. F., M. D., 751 Tremont St., Boston, Mass. (29).
Dorsey, Rev. Jas. O., Bureau of Ethnology, Washington, D. C., (31.)
Dudley, Prof. Wm. R., Ithica, N. Y. (29).
Eaton, Hon. Jonn, U. S. Commiss'r of Education, Washington, D. C. (25).
Fairchild, H. L., 153 E. 47th St. New York, N. Y. (28).
Fernald, Prof. M. C. State Agricultural College, Orono, Me. (22).
Fletcher, Miss Alice C., care Peabody Museum. Cambridge, Mass. (29..
Fletcher, James, Library of Parliament, Ottawa, Can. (31).
Freeman, Spencer H., Cleveland, Ohio, (29).
French, Prof. Thomas, jr., Urbana, Ohio (30).
Gallaudet, Edw. M., Pres. Nat. Deaf Mute College, Washington D. C. (28).
Gulley, Prof. Frank A., Agricultural College, Oktibbeha Co., Miss. (30).
Gray, Dr. Elisha, Highland Park, Ill.
Hall, Prof. C. W., Univ. of Minnesota, Minneapolis, Minn. (28).
Halsted, Byron D., 245 Broadway, New York, N. Y. (29).

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Hanaman, C. E., Troy, N. Y. (19).
Hardy, Prof. A. S., Dartmouth College, Hanover, N. H. (28)
Holman, Silas W., Mass. Inst. of Technology, Boston, Mass. (31).
Holmes, Wm. H., Smithsonian Institution, Washington, D. C. (30).
Hosea, Lewis M., Johnston Building, Cincinnati, Ohio (30).
Hotchkiss, Jed., Staunton, Va. (31).
Hovey, Rev. H. C., New Haven, Conn. (29).
Jordan, Prof. David S., Bloomington, Ind. (31).
Kellicott, David S., Bugalo, Y. Y. 31).
Kershner, Prof. Jefferson E., Lancaster City, Pa, (29).
Kinnicut, Leonard P.. Worcester. Mass. (28).
Kunz, G. F,, care Tiffany & Co., New York, N. Y. (29).
Landreth, Prof. Olin H., Vanderbilt Univ., Nashville, Tenn. (28).
Larkin, Edgar L., New Windsor, Mercer Co., Ill. (28).
Mackintosh, James B., School of Mines, Columbia Coll., N. Y., N. Y. (27).
Moses, Prof. Thos. F., Urbana University, Urbana, Ohio. (25).
Osborn. Henry F.. S. D., Garrisons, N. Y. (29.)
Payue, Prof. Wm. W., Carleton College, Northfield, Minn. (30).
Pickering, Wm. H., 84 Mt. Vernon St., Boston, Mass. (29).
Robinson, Prof. S. W., Univ. of Ohio, Columbus, Ohio (30).
Rockwell, Chas. H., Box 293, Tarrytown, N. Y. (28)
Rosenspitz, Dr. Alexander, Rabbi, Lock Box 430, Portland, Oregon (26).
Smiley, Charles W., Smithsonian Institution, Washington, D. C. (28).
Smith, Edwin, Ass't U. S. Coast and Geodetic Survey, Washington, D. C. (30).
Upton, Winslow, Army Signal Office, Washington, D. C. (29).
Walmsley, W. H., 1016 Chestnut St., Philadelphia, Pa. (28).
Webb, Prof. J. Burkitt, Ithaca, N. Y. (31).
Wheeler, Prof. C. G. Univ. of Chicago, Chicago, Ill.
Whiting, Miss Sarah F., Wellesley College, Wellesley, Mass. (31)

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SCIENCE
Cambridge, Mass.

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COMMITTEES AND MEMBERS

OF

THE AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE,

FOR THE THIRTY-SECOND MEETING,

HELD AT

MINNEAPOLIS, MINNESOTA.

AUGUST, 1883.

SALEM:
PUBLISHED BY THE PERMANENT SECRETARY.
1883.

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FOR THE

MINNEAPOLIS MEETING.

THIRD WEDNESDAY IN AUGUST, 1883.

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C. Chemistry—EDWARD W. MORLEY of Cleveland.
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F. Biology—W. J. BEAL of Lansing.
G. Histology and Microscopy—J. D. COX of Cincinnati.
H. Anthropology—O. T. MASON of Washington.
I. Economic Science, and Statistics—F. B. HOUGH of Lowville.

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B. Physics—C. K. WEAD of Ann Arbor.
C. Chemistry—J. W. LANGLEY of Ann Arbor.
D. Mechanical Science—[Resigned.]
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F. Biology—S. A. FORBES of Normal.
G. Histology and Microscopy—CARL SEILER of Philadelphia.
H. Anthropology—G. H. PERKINS of Burlington.
I. Economic Science, and Statistics—JOSEPH CUMMINGS of Evanston.

TREASURER.

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From the Association at large.—One Fellow to be elected from each Section.

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SUB-COMMITTEE ON PRINTING AND ADVERTISING.

Chairman.— Mr. David Blakely.

Mr. C. A. Nimocks, Gen. A. B. Nettleton, Hon. W. S. King, Prof. C. W. Hall.

SUB-COMMITTEE ON TRANSPORTATION AND EXCURSIONS.

Chairman.— Thomas Lowry, Esq.

Hon. W. D. Washburn, Mr. C. F. Hatch, Mr. E. V. White, Mr. John Crosby, Mr. W. H. Hinkle, Hon. J. S. Pillsbury, Mr. Llewellyn Christian, Hon. J. B. Bassett, Mr. C. H. Prior, Mr. A. H. Bode, Mr. W. H. Truesdale, Col. William McCrory.

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SPECIAL COMMITTEES.

1. *Permanent Committee on Weights, Measures and Coinage.*

F. A. P. BARNARD, of New York,
B. A. GOULD, of Boston,
J. E. HILGARD, of Washington,
H. A. NEWTON, of New Haven,
J. LAWRENCE SMITH, of Louisville,
E. B. ELLIOTT, of Washington,
JOHN TROWBRIDGE, of Cambridge,
A. M. MAYER, of Hoboken.

2. *Committee to Memorialize the Legislature of New York for a New Survey of Niagara Falls.*

G. W. HOLLEY, of Niagara Falls,
J. T. GARDNER, of Albany.

3. *Committee on Membership.*

THE MEMBERS OF THE STANDING COMMITTEE.

4. *Committee on the best methods of Science Teaching in the Public Schools.*

E. L. YOUMANS, of New York,
A. R. GROTE, of New York,
J. S. NEWBERRY, of New York,
J. W. POWELL, of Washington,
N. S. SHALER, of Cambridge,
N. T. LUPTON, of Nashville.

5. *Committee on the Registration of Deaths, Births, and Marriages.*

E. B. ELLIOTT, of Washington,
J. B. KILLEBREW, of Nashville,
E. T. COX, of San Francisco,
F. B. HOUGH, of Lowville,
J. S. COPES, of New Orleans,
JOHN COLLETT, of Indianapolis.

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6. *Committee on Standard Time.*

ORMOND STONE, of Univ. of Va.
S. P. LANGLEY, of Allegheny,
E. C. PICKERING, of Cambridge,
J. R. EASTMAN, of Washington,
LEWIS BOSS, of Albany,
LEONARD WALDO, of New Haven,
J. K. REES, of St. Louis,
G. W. HOUGH, of Lowville,
H. S. PRITCHETT, of Glasgow.

7. *Committee on Stellar Magnitudes.*

E. C. PICKERING, of Cambridge,
LEWIS BOSS, of Albany,
S. W. BURNHAM, of Chicago,
ASAPH HALL, of Washington,
WILLIAM HARKNESS, of Washington,
E. S. HOLDEN, of Madison,
SIMON NEWCOMB, of Washington,
C. H. F. PETERS, of Clinton,
ORMOND STONE, of Univ. of Va.
C. A. YOUNG, of Princeton.

8. *Committee on State Geological Surveys.*

G. C. SWALLOW, of Columbia,
JAMES HALL, of Albany,
JOHN R. PROCTER, of Frankfort,
N. H. WINCHELL, of Minneapolis,
W. C. KERR, of Raleigh,
J. W. POWELL, of Washington,
EDWARD ORTON, of Columbus.

9. *Committee to confer with Committees of Foreign Associations for the Advancement of Science with reference to an International Convention of Scientific Associations.*

T. STERRY HUNT, of Montreal,
ALEXANDER AGASSIZ, of Cambridge.
SIMON NEWCOMB, of Washington.

10. *Committee to confer with a Committee of the British Association for the Advancement of Science on the Annual Records of Science.*

J. W. DAWSON, of Montreal,
F. W. CLARK, of Washington,
EDWARD S. DANA, of New Haven,
H. W. MARTIN, of Baltimore,
C. A. WHITE, of Washington.

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11. *Committee to devise a plan for the proper indexing of the Literature of the Chemical Elements.*

H. CARRINGTON BOLTON, of Hartford,
IRA REMSEN, of Baltimore,
F. W. CLARK, of Washington,
A. R. LEEDS, of Hoboken,
A. A. JULIEN, of New York.

12. *Committee on a Primary Meridian and an International Standard of Time.*

F. A. P. BARNARD, of New York,
C. A. YOUNG, of Princeton,
T. STERRY HUNT, of Montreal,
J. R. EASTMAN, of Washington,
CHARLES CARPMAEL, of Toronto,
E. B. ELLIOTT, of Washington.

13. *Committee on International Congress of Geologists.*

JAMES HALL, of Albany,
J. W. DAWSON, of Montreal,
J. S. NEWBERRY, of New York,
T. STERRY HUNT, of Montreal,
C. H. HITCHCOCK, of Hanover,
RAPHAEL PUMPELLY, of Owego,
J. P. LESLEY, of Philadelphia.

14. *Committee to confer with the United States Geologist in regard to coöperation between the Government and State Geological Surveys.*

JAMES HALL, of Albany,
T. STERRY HUNT, of Montreal,
J. S. NEWBERRY, of New York,
N. H. WINCHELL, of Minneapolis,
C. H. HITCHCOCK, of Hanover,
J. P. LESLEY, of Philadelphia,
G. H. COOK, of Brunswick,
E. A. SMITH, of Tuscaloosa,
JOSEPH LE CONTE, of San Francisco.

This Committee has power to add to its number.

15. *Auditors.*

HENRY WHEATLAND, of Salem,
THOMAS MEEHAN, of Germantown.

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MEETINGS AND OFFICERS OF THE AMERICAN ASSOCIATION OF GEOLOGISTS AND NATURALISTS.

MEETING.	DATE.	PLACE.	CHAIRMAN.	SECRETARY.	ASSIST. SEC'Y.	TREASURER.
1st	April 2, 1840,	Philadelphia,	Edward Hitchcock,*	L. C. Beck,*		
2d	April 5, 1841,	Philadelphia,	Benjamin Silliman,*	L. C. Beck,*	B. Silliman, jr., C. B. Trego,	
3d	April 25, 1842,	Boston,	S. G. Morton,*	C. T. Jackson,*	J. D. Whitney, M. B. Williams,	
4th	April 26, 1843,	Albany,	Henry D. Rogers,*	B. Silliman, jr.,		John Locke.*
5th	May 8, 1844,	Washington,	John Locke,*	B. Silliman, jr., O. P. Hubbard,		Douglas Houghton.*
6th	April 30, 1845,	New Haven,	Wm. B. Rogers,*	B. Silliman, jr., J. Lawrence Smith,		Douglas Houghton.*
7th	Sept. 2, 1846,	New York,	C. T. Jackson,*	B. Silliman, jr.,		E. C. Herrick.*
8th	Sept. 20, 1847,	Boston,	Wm. B. Rogers,†*	Jeffries Wyman,*		B. Silliman, jr.

*Deceased.

†Professor ROGERS, as chairman of this last meeting, called the first meeting of the new Association to order and presided until it was fully organized by the adoption of a constitution. As he was thus the first presiding officer of the new Association, it was directed at the Hartford meeting that his name be placed at the head of the Past Presidents of the American Association for the Advancement of Science.

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MEETINGS AND OFFICERS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

MEETING.	DATE.	PLACE.	PRESIDENT.	VICE-PRESIDENT.	GENERAL SECRETARY.	PERMANENT SEC'Y.	TREASURER.
1st	Sept. 20, 1848.	Philadelphia, Pa.,	W. C. Redfield,*		Walter R. Johnson,*		Jeffries Wyman.*
2d	Aug. 14, 1849,	Cambridge, Mass.,	Joseph Henry,*		E. N. Horsford, 1		A. L. Elwyn.
3d	Mar. 12, 1850,	Charleston, S. C.,	A. D. Bache,* 2		L. R. Gibbs, 3		St. J. Ravenel.* 4
4th	Aug. 19, 1850,	New Haven, Conn.,	A. D. Bache,*		E. C. Herrick,*		A. L. Elwyn.
5th	May 5, 1851,	Cincinnati, Ohio,	A. D. Bache,*		W. B. Rogers, 5 *	S. F. Baird,	S. F. Baird. 6
6th	Aug. 19, 1851.	Albany, N. Y.,	Louis Agassiz,*		W. B. Rogers,*	S. F. Baird,	A. L. Elwyn.
7th	July 28, 1853.	Cleveland, Ohio,	Benjamin Pierce,*		S. St. John, 7	S. F. Baird,	A. L. Elwyn.
8th	April 26 1854.	Washington, D.C.,	J. D. Dana,		J. Lawrence Smith,	Joseph Lovering,	J. L. LeConte. 8
9th	Aug. 15, 1855.	Providence, R. I.,	John Torrey,*		Wolcott Gibbs,	Joseph Lovering,	A. L. Elwyn.
10th	Aug. 20, 1856.	Albany, N. Y.,	James Hall,		B. A. Gould,	Joseph Lovering,	A. L. Elwyn.
11th	Aug. 12, 1857,	Montreal, Canada.	Alexis Caswell,* 9	Alexis Caswell,*	John LeConte,	Joseph Lovering,	A. L. Elwyn.
12th	April 28, 1858.	Baltimore, Md.,	Alexis Caswell,* 10	John E. Holbrook,*†	W. M. Gillespie,* 11	Joseph Lovering,	A. L. Elwyn.
13th	Aug. 3, 1859,	Springfield, Mass.,	Stephen Alexander,	Edward Hitchcock,*	William Chauvenet,*	Joseph Lovering,	A. L. Elwyn.
14th	Aug. 1, 1860,	Newport, R. I.,	Isaac Lea,	B. A. Gould,	Joseph LeConte,	Joseph Lovering,	A. L. Elwyn.
15th	Aug. 15, 1866.	Buffalo, N. Y.,	F. A. P. Barnard,	A. A. Gould,* 12	Elias Loomis, 13	Joseph Lovering,	A. L. Elwyn.†
16th	Aug. 21, 1867.	Burlington, Vt.,	J. S. Newberry,	Wolcott Gibbs,	C. S. Lyman,	Joseph Lovering,	A. L. Elwyn.†
17th	Aug. 5, 1868.	Chicago, Ill.,	B. A. Gould,	Charles Whittlesey,	Simon Newcomb, 14	Joseph Lovering,	A. L. Elwyn.†
18th	Aug. 18, 1869.	Salem, Mass.,	J. W. Foster,*	O. N. Rood,	O. C. Marsh,	F. W. Putnam, 15	A. L. Elwyn.†
19th	Aug. 17, 1870.	Troy, N. Y.,	T. S. Hunt, 16	T. S. Hunt,	F. W. Putnam, 17	Joseph Lovering,	A. L. Elwyn.†
20th	Aug. 16, 1871.	Indianapolis, Ind.,	Asa Gray,	G. F. Barker,	F. W. Putnam,	Joseph Lovering,	W. S. Vaux.*
21st	Aug. 15, 1872.	Dubuque, Iowa,	J. Lawrence Smith,	Alex. Winchell,	E. S. Morse,	Joseph Lovering,	W. S. Vaux.*
22d	Aug. 20, 1873,	Portland, Me.,	Joseph Lovering,	A. H. Worthen,†	C. A. White,	F. W. Putnam,	W. S. Vaux.*
23d	Aug. 12, 1874.	Hartford, Conn.,	J. L. LeConte,	C. S. Lyman,	A. C. Hamlin,	F. W. Putnam,	W. S. Vaux.†*

1. In place of Jeffries Wyman, *not present.*
2. In place of Joseph Henry, *not present.*
3. In place of E. C. Herrick, *not present.*
4. In place of A. L. Elwyn, *not present.*
5. In place of E. C. Herrick, *not present.*
6. In place of A. L. Elwyn, *not present.*
7. In place of J. D. Dana, *not present.*
8. In place of A. L. Elwyn, *not present.*
9. In place of J. W. Bailey, *deceased.*
10. In place of Jeffries Wyman, *not present.*
11. In place of Wm. Chauvenet, *not present.*
12. In place of R. W. Gibbes, *not present.*
13. In place of W. P. Trowbridge, *not present.*
14. In place of A. P. Rockwell, *called home 1st day.*
15. In place of Joseph Lovering, *in Europe.*
16. In place of Wm. Chauvenet, *too ill to be present.*
17. In place of C. F. Hartt, *in Brazil.*

* Deceased. † Not present at the meeting.

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MEETINGS AND OFFICERS OF THE ASSOCIATION (*Continued*).

MEETING.	DATE.	PLACE.	PRESIDENT.	VICE PRESIDENT, SECTION A.	VICE PRESIDENT, SECTION B.	CHAIRMAN OF PERMANENT SUBSECTION OF CHEMISTRY.	CHAIRMAN OF PERMANENT SUBSECTION OF ANTHROPOLOGY.	CHAIRMAN OF PERMANENT SUBSECTION OF MICROSCOPY.	CHAIRMAN OF PERMANENT SUBSECTION OF ENTOMOLOGY.
24th	Aug. 11, 1875.	Detroit, Mich.,	J. E. Hilgard,	H. A. Newton,	J. W. Dawson,	S. W. Johnson,	L. H. Morgan,*	———	———
25th	Aug. 23, 1876.	Buffalo, N. Y.,	W. B. Rogers,*	C. A. Young,	E. S. Morse,	G. F. Barker,	L. H. Morgan,*	R. H. Ward,	———
26th	Aug. 29, 1877.	Nashville, Tenn.,	S. Newcomb,	R. H. Thurston,[1]	O. C. Marsh,	N. T. Lupton,	Daniel Wilson,†	R. H. Ward,	———
27th	Aug. 21, 1878.	St. Louis, Mo.,	O. C. Marsh,	R. H. Thurston,	Aug. R. Grote,	F. W. Clarke,	———[2]	R. H. Ward,[3]	———
28th	Aug. 27, 1879.	Saratoga, N. Y.,	G. F. Barker,	S. P. Langley,	J. W. Powell,	F. W. Clarke,[4]	Daniel Wilson,	E. W. Morley,	———
29th	Aug. 25, 1880.	Boston, Mass.,	L. H. Morgan,*	Asaph Hall,	Alex. Agassiz,	J. M. Ordway,	J. W. Powell,	S. A. Lattimore,	———
30th	Aug. 17, 1881.	Cincinnati, Ohio,	G. J. Brush,	Wm. Harkness,[7]	E. T. Cox,[8]	G. C. Caldwell,[9]	G. Mallery,	A. B. Hervey,	J. G. Morris.

PERMANENT SECRETARY.	GENERAL SECRETARY.	SECRETARY OF SECTION A.	SECRETARY OF SECTION B.	SECRETARY OF PERMANENT SUBSECTION OF CHEMISTRY.	SECRETARY OF PERMANENT SUBSECTION OF ANTHROPOLOGY.	SECRETARY OF PERMANENT SUBSECTION OF MICROSCOPY.	SECRETARY OF PERMANENT SUBSECTION OF ENTOMOLOGY.	TREASURER.
F. W. Putnam,	S. H. Scudder,	S. P. Langley, T. C. Mendenhall,	E. S. Morse,	F. W. Clarke,	F. W. Putnam,	———	———	W. S. Vaux.*
F. W. Putnam,	T. C. Mendenhall,	A. W. Wright,	Albert H. Tuttle,	H. C. Bolton,	O. T. Mason,	E. W. Morley,	———	W. S. Vaux.*
F. W. Putnam,	Aug. R. Grote,	H. C. Bolton,	Wm. H. Dall,	P. Schweitzer,	———[2]	T. O. Summers, jr.,	———	W. S. Vaux.†*
F. W. Putnam,	H. C. Bolton,	F. E. Nipher,	George Little,	A. P. S. Stuart,	———[2]	G. J. Engelmann,	———	W. S. Vaux.†*
F. W. Putnam,	H. C. Bolton,[5]	J. K. Rees,	W. H. Dall,[6]	W. R. Nichols,	J. G. Henderson,	A. B. Hervey,	———	W. S. Vaux.†*
F. W. Putnam,	J. K. Rees,	H. B. Mason,	C. V. Riley,	C. E. Munroe,	J. G. Henderson,	A. B. Hervey,	———	W. S. Vaux.*
F. W. Putnam,	C. V. Riley,	E. T. Tappan,[10]	Wm. Saunders,	A. Springer,[12]	J. G. Henderson,	W. H. Seaman,[11]	B. P. Mann,	W. S. Vaux.†*

[1] In the absence of E. C. Pickering.
[2] The Subsection united with Sec. B.
[3] In the absence of G. S. Blackie.
[4] In the absence of Ira Remsen.
[5] In the absence of George Little.
[6] In the absence of A. C. Wetherby.
[7] In the absence of A. M. Mayer.
[8] In the absence of George Engelmann.
[9] In the absence of W. R. Nichols.
[10] In the absence of John Trowbridge.
[11] In the absence of S. P. Sharples.
[12] In place of H. W. Wiley, called away.

* Deceased.
† Not present.

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MEETINGS AND OFFICERS OF THE ASSOCIATION. (*Continued.*)

MEETING.	DATE.	PLACE.	PRESIDENT.	VICE PRESIDENTS.				
				Section A.	Section B.	Section C.	Section D.	Section E.
31st	Aug. 23, 1882.	Montreal, Can.	J. W. Dawson,	W. A. Rogers,[1]	T.C. Mendenhall,	H. C. Bolton,	W.P.Trowbridge	E. T. Cox,
32nd	Aug. 15, 1883.	Minneapolis, M.	C. A. Young,	W. A. Rogers,	H.A.Rowland,	E. W. Morley,	De Volsen Wood	C.H. Hitchcock

VICE PRESIDENTS.				Permanent Secretary.	General Secretary.	Assistant Gen. Secretary.	SECRETARIES OF SECTIONS.	
Section F.	Section G.	Section H.	Section I.				Section A.	Section B.
W. H. Dall,	A. H. Tuttle,	Alex. Winchell,[2]	E. B. Elliott,	F. W. Putnam,	Wm. Saunders,	J. R. Eastman,	H. T. Eddy,	C. S. Hastings,
W. J. Beal,	J. D. Cox,	O. T. Mason,	F. B. Hough,	F. W. Putnam,	J. R. Eastman,	Alfred Springer,	W. W. Johnson,	C. K. Wead,

SECRETARIES OF THE SECTIONS.							Treasurer.
Section C.	Section D.	Section E.	Section F.	Section G.	Section H.	Section I.	
Alfred Springer,	J. B. Webb,[3]	H. S. Williams,[4]	Wm. Osler,[5]	Robt. Brown, jr.,	O. T. Mason,	F. B. Hough,[6]	————————*
J. W. Langley,	————————	A. A. Julien,	S. A. Forbes,	Carl Seiler,	G. H. Perkins,	Jos. Cummings,	William Lilly,

[1] In the absence of William Harkness
[2] In the absence of Daniel Wilson.
[3] In the absence of C. B. Dudley.
[4] In the absence of C. E. Dutton.
[5] In the absence of C. S. Minot.
[6] F. B. Hough was called home and J. R. Dodge acted at the close of the meeting.
*Deceased.

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COMMONWEALTH OF MASSACHUSETTS.

IN THE YEAR ONE THOUSAND EIGHT HUNDRED AND SEVENTY-FOUR.

AN ACT

To Incorporate the "American Association for the Advancement of Science."

Be it enacted by the Senate and House of Representatives, in General Court assembled, and by the authority of the same, as follows:

Section 1. Joseph Henry of Washington, Benjamin Pierce of Cambridge, James D. Dana of New Haven, James Hall of Albany, Alexis Caswell of Providence, Stephen Alexander of Princeton, Isaac Lea of Philadelphia, F. A. P. Barnard of New York, John S. Newberry of Cleveland, B. A. Gould of Cambridge, T. Sterry Hunt of Boston, Asa Gray of Cambridge, J. Lawrence Smith of Louisville, Joseph Lovering of Cambridge and John LeConte of Philadelphia, their associates, the officers and members of the Association, known as the "American Association for the Advancement of Science," and their successors, are hereby made a corporation by the name of the "American Association for the Advancement of Science," for the purpose of receiving, purchasing, holding and conveying real and personal property, which it now is, or hereafter may be possessed of, with all the powers and privileges, and subject to the restrictions, duties and liabilities set forth in the general laws which now or hereafter may be in force and applicable to such corporations.

Section 2. Said corporation may have and hold by purchase, grant, gift or otherwise, real estate not exceeding one hundred thousand dollars in value, and personal estate of the value of two hundred and fifty thousand dollars.

Section 3. Any two of the corporators above named are hereby authorized to call the first meeting of the said corporation in the month of August next ensuing, by notice thereof "by mail," to each member of the said Association.

Section 4. This act shall take effect upon its passage.

House of Representatives, March 10, 1874.
Passed to be enacted,
John E. Sanford, *Speaker*

In Senate, March 17, 1874.
Passed to be enacted,
Geo. B. Loring, *President.*

March 19, 1874.
Approved,
W. B. Washburn.

Secretary's Department,
Boston, April 3, 1874.
A true copy, Attest:
David Pulsifer,
Deputy Secretary of the Commonwealth.

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CONSTITUTION

OF THE

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.*

Incorporated by Act of the General Court of the Commonwealth of Massachusetts.

OBJECTS.

ARTICLE 1. The objects of the Association are, by periodical and migratory meetings, to promote intercourse between those who are cultivating science in different parts of America, to give a stronger and more general impulse and more systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and a wider usefulness.

MEMBERS, FELLOWS, PATRONS AND HONORARY FELLOWS.

ART. 2. The Association shall consist of Members, Fellows, Patrons, and Honorary Fellows.

ART. 3. Any person may become a Member of the Association upon recommendation in writing by two members or fellows, nomination by the Standing Committee, and election by a majority of the members and fellows present in General Session.

ART. 4. Fellows shall be nominated by the Standing Committee from such of the members as are professionally engaged in science, or have by their labors aided in advancing science. The election of fellows shall be by ballot and a majority vote of the members and fellows present in General Session.†

ART. 5. Any person paying to the Association the sum of one thousand dollars shall be classed as a Patron, and shall be entitled to all the privileges of a member and to all its publications.

ART. 6. Honorary Fellows of the Association, not exceeding three for each section, may be elected; the nominations to be made by the Stand-

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*As amended at the Cincinnati Meeting, August, 1881, and to take effect at the Montreal Meeting, August, 1882.

†When this article was adopted in 1874 the following clause was added, but was stricken out as inoperative when the constitution was amended in 1881:—

"But all persons who may be members at the time of the adoption of this constitution may become fellows by signifying their desire to this effect before the first day of August, 1875."

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ing Committee and approved by ballot in the respective sections before election by ballot in General Session. Honorary Fellows shall be entitled to all the privileges of fellows and shall be exempt from all fees and assessments, and entitled to all publications of the Association issued after the date of their election.

ART. 7. The name of any member or fellow two years in arrears for annual dues shall be erased from the list of the Association, provided that two notices of indebtedness, at an interval of at least three months, shall have been given; and no such person shall be restored until he has paid his arrearages or has been reëlected.

ART. 8. No member or fellow shall take part in the organization of, or hold office in, more than one section at any one meeting.

OFFICERS.

ART. 9. The Officers of the Association shall be elected by ballot in General Session from the fellows, and shall consist of a President, a Vice President from each section, a Permanent Secretary, a General Secretary, an Assistant General Secretary, a Treasurer, and a Secretary of each Section; these, with the exception of the Permanent Secretary, shall be elected at each meeting for the following one, and, with the exception of the Treasurer and the Permanent Secretary, shall not be reëligible for the next two meetings. The term of office of Permanent Secretary shall be five years.

ART. 10. The President, or, in his absence, the senior Vice President present, shall preside at all General Sessions of the Association and at all meetings of the Standing Committee. It shall also be the duty of the President to give an address at a General Session of the Association at the meeting following that over which he presided.

ART. 11. The Vice Presidents shall be the chairmen of their respective Sections, and of their Sectional Committees, and it shall be part of their duty to give an address, each before his own section, at such time as the Standing Committee shall determine. The Vice Presidents may appoint temporary chairmen to preside over the sessions of their sections, but shall not delegate their other duties. The Vice Presidents shall have seniority in order of their continuous membership in the Association.

ART. 12. The General Secretary shall be the Secretary of all General Sessions of the Association, and shall keep a record of the business of these sessions. He shall receive the records from the Secretaries of the

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Sections, which, after examination, he shall transmit with his own records to the Permanent Secretary within two weeks after the adjournment of the meeting. He shall receive proposals for membership and bring them before the Standing Committee.

ART. 13. The Assistant General Secretary shall be the Secretary of the Standing Committee. He shall give to the Secretary of each Section the titles of papers assigned to it by the Standing Committee.

ART. 14. The Permanent Secretary shall be the executive officer of the Association under the direction of the Standing Committee. He shall attend to all business not specially referred to committees nor otherwise constitutionally provided for. He shall keep an account of all business that he has transacted for the Association, and make annually a general report for publication in the annual volume of Proceedings. He shall attend to the printing and distribution of the annual volume of Proceedings, and all other printing ordered by the Association. He shall issue a circular of information to members and fellows at least three months before each meeting, and shall, in connection with the Local Committee, make all necessary arrangements for the meetings of the Association. He shall provide the Secretaries of the Association with such books and stationery as may be required for their records and business, and shall provide members and fellows with such blank forms as may be required for facilitating the business of the Association. He shall collect all assessments and admission fees, and notify members and fellows of their election, and of any arrearages. He shall receive, and bring before the Standing Committee, the titles and abstracts of papers proposed to be read before the Association. He shall keep an account of all receipts and expenditures of the Association, and report the same annually at the first meeting of the Standing Committee, and shall pay over to the Treasurer such unexpended funds as the Standing Committee may direct. He shall receive and hold in trust for the Association all books, pamphlets and manuscripts belonging to the Association, and allow the use of the same under the provisions of the Constitution and the orders of the Standing Committee. He shall receive all communications addressed to the Association during the interval between meetings, and properly attend to the same. He shall at each meeting report the names of fellows and members who have died since the preceding meeting. He shall be allowed a salary which shall be determined by the Standing Committee, and may employ one or more clerks at such compensation as may be agreed upon by the Standing Committee.

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ART. 15. The Treasurer shall invest the funds received by him in such securities as may be directed by the Standing Committee. He shall annually present to the Standing Committee an account of the funds in his charge. No expenditure of the principal in the hands of the Treasurer shall be made without a unanimous vote of the Standing Committee, and no expenditure of the income received by the Treasurer shall be made without a two-thirds vote of the Standing Committee.

ART. 16. The Secretaries of the Sections shall keep the records of their respective sections, and, at the close of the meeting, give the same, including the records of subsections, to the General Secretary. They shall also be the Secretaries of the Sectional Committees. The Secretaries shall have seniority in order of their continuous membership in the Association.

ART. 17. In case of a vacancy in the office of the President, one of the Vice Presidents shall be elected by the Standing Committee as the President of the meeting. Vacancies in the offices of Vice President, Permanent Secretary, General Secretary, Assistant General Secretary, and Treasurer, shall be filled by nomination of the Standing Committee and election by ballot in General Session. A vacancy in the office of Secretary of a Section shall be filled by nomination and election by ballot in the Section.

ART. 18. The Standing Committee shall consist of the past Presidents, and the Vice Presidents of the last meeting, together with the President, the Vice Presidents, the Permanent Secretary, the General Secretary, the Assistant General Secretary, the Secretaries of the Sections, and the Treasurer of the current meeting, with the addition of one fellow elected from each Section by ballot on the first day of its meeting. The members present at any regularly called meeting of the Committee, provided there are at least five, shall form a quorum for the transaction of business. The Standing Committee shall meet on the day preceding each annual meeting of the Association, and arrange the programme for the first day of the sessions. The time and place of this first meeting shall be designated by the Permanent Secretary. Unless otherwise agreed upon, regular meetings of the Committee shall be held in the committee room at 9 o'clock, A. M., on each day of the meeting of the Association. Special meetings of the Committee may be called at any time by the President. The Standing Committee shall be the board of supervision of the Association, and no business shall be transacted by the Association that has not first been referred to, or originated with, the Committee. The Committee shall receive and assign papers to the respective sections; examine and, if necessary, exclude papers; decide which papers, discussions and other

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proceedings shall be published, and have the general direction of the publications of the Association; manage the financial affairs of the Association; arrange the business and programmes for General Sessions; suggest subjects for discussion, investigation or reports; nominate members and fellows; and receive and act upon all invitations extended to the Association and report the same at a General Session of the Association.

ART. 19. The Nominating Committee shall consist of the Standing Committee, and one member or fellow elected by each of the Sections. It shall be the duty of this Committee to meet at the call of the President and nominate the general officers for the following meeting of the Association. It shall also be the duty of this Committee to recommend the time and place for the next meeting. The Vice President and Secretary of each Section shall be recommended to the Nominating Committee by a sub-committee consisting of the Vice President, Secretary, and three members or fellows elected by the Section.

MEETINGS.

ART. 20. The Association shall hold a public meeting annually, for one week or longer, at such time and place as may be determined by vote of the Association, and the preliminary arrangements for each meeting shall be made by the Local Committee, in conjunction with the Permanent Secretary and such other persons as the Standing Committee may designate.

ART. 21. General Sessions shall be held at 10 o'clock, A. M., unless otherwise ordered, on every day of the meeting, Sunday excepted, and at such other times as may be appointed by the Standing Committee.

SECTIONS AND SUBSECTIONS.

ART. 22. The Association shall be divided into nine Sections, namely:—A, *Mathematics and Astronomy;* B, *Physics;* C, *Chemistry, including its application to agriculture and the arts;* D, *Mechanical Science;* E, *Geology and Geography;* F, *Biology;* G, *Histology and Microscopy;* H, *Anthropology;* I, *Economic Science and Statistics.* The Standing Committee shall have power to consolidate any two or more Sections temporarily, and such consolidated Sections shall be presided over by the senior Vice President and Secretary of the Sections comprising it.

ART. 23. Immediately on the organization of a Section there shall be three fellows elected by ballot after open nomination, who, with the Vice President and Secretary, shall form its Sectional Committee. The Sectional Committees shall have power to fill vacancies in their own numbers. Meetings of the Sections shall not be held at the same time with a General Session.

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ART. 24. The Sectional Committee of any Section may at its pleasure form one or more temporary Subsections, and may designate the officers thereof. The Secretary of a Subsection shall, at the close of the meeting, transmit his records to the Secretary of the Section.

ART. 25. A paper shall not be read in any Section nor Subsection until it has been received from the Standing Committee and placed on the programme of the day by the Sectional Committee.

SECTIONAL COMMITTEES.

ART. 26. The Sectional Committees shall arrange and direct the business of their respective Sections. They shall prepare the daily programmes and give them to the Permanent Secretary for printing at the earliest moment practicable. No titles of papers shall be entered on the daily programmes except such as have passed the Standing Committee. No change shall be made in the programme for the day in a Section without the consent of the Sectional Committee. The Sectional Committees may refuse to place the title of any paper on the programme; but every such title, with the abstract of the paper or the paper itself, must be returned to the Standing Committee with the reasons why it was refused.

ART. 27. The Sectional Committees shall examine all papers and abstracts referred to the sections, and they shall not place on the programme any paper inconsistent with the character of the Association; and to this end they have power to call for any paper, the character of which may not be sufficiently understood from the abstract submitted.

PAPERS AND COMMUNICATIONS.

ART. 28. All members and fellows must forward to the Permanent Secretary, as early as possible, and when practicable before the convening of the Association, full titles of all the papers which they propose to present during the meeting, with a statement of the time that each will occupy in delivery, and also such abstracts of their contents as will give a general idea of their nature; and no title shall be referred by the Standing Committee to the Sectional Committee until an abstract of the paper or the paper itself has been received.

ART. 29. If the author of any paper be not ready at the time assigned, the title may be dropped to the bottom of the list.

ART. 30. Whenever practicable, the proceedings and discussions at General Sessions, Sections and Subsections shall be reported by professional reporters, but such reports shall not appear in print as the official reports of the Association unless revised by the Secretaries.

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Printed Proceedings.

Art. 31. The Permanent Secretary shall have the Proceedings of each meeting printed in an octavo volume as soon after the meeting as possible, beginning one month after adjournment. Authors must prepare their papers or abstracts ready for the press and forward them to the Permanent Secretary within this interval, otherwise only the abstracts or titles taken from the "title blanks" will appear in the printed volume. The Standing Committee shall have power to order the printing of any paper by abstract or title only. Whenever practicable, proofs shall be forwarded to authors for revision. If any additions or substantial alterations are made by the author of a paper after its submission to the Secretary, the same shall be distinctly indicated. Illustrations must be provided for by the authors of the papers, or by a special appropriation from the Standing Committee. Immediately on publication of the volume, a copy shall be forwarded to every member and fellow of the Association who shall have paid the assessment for the meeting to which it relates, and it shall also be offered for sale by the Permanent Secretary at such price as may be determined by the Standing Committee. The Standing Committee shall also designate the institutions to which copies shall be distributed.

Local Committee.

Art. 32. The Local Committee shall consist of persons interested in the objects of the Association and residing at or near the place of the proposed meeting. It is expected that the Local Committee, assisted by the officers of the Association, will make all essential arrangements for the meeting, and issue a circular giving necessary particulars, at least one month before the meeting.

Library of the Association.

Art. 33. All books and pamphlets received by the Association shall be in the charge of the Permanent Secretary, who shall have a list of the same printed and shall furnish a copy to any member or fellow on application. Members and fellows who have paid their assessments in full shall be allowed to call for books and pamphlets, which shall be delivered to them at their expense, on their giving a receipt agreeing to make good any loss or damage and to return the same free of expense to the Secretary at the time specified in the receipt given. All books and pamphlets in circulation must be returned at each meeting. Not more than five books, including volumes, parts of volumes, and pamphlets, shall be held at one time by any member or fellow. Any book may be withheld from circulation by order of the Standing Committee.

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Admission Fee and Assessments.

Art. 34. The admission fee for members shall be five dollars in addition to the annual assessment. On the election of any member as a fellow an additional fee of two dollars shall be paid.

Art. 35. The annual assessment for members and fellows shall be three dollars.

Art. 36. Any member or fellow who shall pay the sum of fifty dollars to the Association, at any one time, shall become a Life Member and as such shall be exempt from all further assessments, and shall be entitled to the Proceedings of the Association. All money thus received shall be invested as a permanent fund, the income of which shall be used only to assist in original research, unless otherwise directed by unanimous vote of the Standing Committee.

Art. 37. All admission fees and assessments must be paid to the Permanent Secretary, who shall give proper receipts for the same.

Accounts.

Art. 38. The accounts of the Permanent Secretary and of the Treasurer shall be audited annually, by Auditors appointed by the Standing Committee.

Alterations of the Constitution.

Art. 39. No part of this Constitution shall be amended or annulled, without the concurrence of three-fourths of the members and fellows present in General Session, after notice given at a General Session of a preceding meeting of the Association.

ORDER OF PROCEEDINGS IN ORGANIZING A MEETING.

1. The retiring President introduces the President elect, who takes the chair.
2. Formalities of welcome of the Association as may be arranged by the Local Committee.
3. Report of the list of papers entered and their reference to the Sections.
4. Other reports.
5. Announcements of arrangements by the Local Committee.
6. Election of members.
7. Election of fellows.
8. Unenumerated business.
9. Adjournment to meet in Sections.

This order, so far as applicable, to be followed in subsequent General Sessions.

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MEMBERS

OF THE

AMERICAN ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE.[1]

PATRONS.[2]

THOMPSON, MRS. ELIZABETH, Stamford, Conn. (22).

~~LILLY, GEN. WILLIAM~~, Mauch Chunk, Carbon Co., Pa. (28).

MEMBERS.[3]

Abbot, S. L., M. D., 90 Mt. Vernon St., Boston, Mass. (29).
Abbott, Dr. Chas. C., Trenton, N. J. (29).
Abbott, E. K., M. D., Salinas, Monterey Co., Cal. (29).
Abert, Col. James W., Newport, Ky. (31).
Abert, S. Thayer, 1907 Pennsylvania Avenue, Washington, D. C. (30).
Acker, E. O'C., Ass't Eng'r, U. S. N., Norristown, Pa. (28).
Adams, Frank, 41 McGill College Avenue, Montreal, Can. (29).
Adams, John S., M. D., Oakland, Cal. (29).
Adams, Julius W., 155 Congress St., Brooklyn, N. Y. (29).
Adams, Capt. Robert C., Montreal, Can. (31).
Agard, Dr. A. H., 1259 Alice St., Oakland, Alameda Co., Cal. (28).
Aikin, Prof. W. E. A., Baltimore, Md. (12).
Allen, Edmund T., 404 Market St., St. Louis, Mo. (27).
Allen, Dr. G. M., 102 Clark St., Cincinnati, Ohio (30).

[1] The numbers in parentheses indicate the meeting at which the member was elected. The Constitution requires that the names of all members two or more years in arrears shall be omitted from the list, but their names will be restored on payment of arrearages. Members not in arrears are entitled to the annual volume of Proceedings bound in paper. The payment of ten dollars at one time entitles a member to the subsequent volumes bound in cloth, or by the payment of twenty dollars, to the volumes bound in half morocco.

[2] Persons contributing one thousand dollars or more to the Association are classed as Patrons, and are entitled to the privileges of members and to the publications.

The names of Patrons are to remain permanently on the list.

[3] Any Member or Fellow may become a Life Member by the payment of fifty dollars. The money derived from Life Memberships is invested as a fund, the income of which is to be used only to aid in original research. Life Members are exempt from the annual assessment, and are entitled to the annual volume. The names of Life Members are printed in small capitals in the regular list of Members and Fellows.

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Allen, J. M., Hartford, Conn. (22).
Alling, J. C., Supt. City Schools, Albert Lea, Minn. (31).
Alling, Miss Mary R., Acra, Greene Co. N. Y. (29).
Allis, Solon M., Tucson, Arizona (29).
Ammen, Daniel, Rear Admiral U. S. Navy, Washington, D. C. (26).
Anderson, Rev. Joseph, Waterbury, Conn. (29).
Anderson, Newton M., Columbus, Ohio (30).
Andrews, L. W., Ph. D., Springfield, Mass. (31).
Angus, William, 214 St. James St., Montreal, Can. (31).
Appleton, Rev. Edw. W., D.D., Ashbourne P. O., Montgomery Co., Pa. (28).
Archambault, U. E., Montreal, Can. (31).
Armstrong, Lucius H., St. Nicholas, Duval Co., Fla. (30).
Armstrong, Mrs. Lucius H., St. Nicholas, Duval Co., Fla. (30).
Arnold, Lauren B., Rochester, N. Y. (30).
Arthur, J. C., Charles City, Iowa (21).
Ashburner, Charles A., 907 Walnut St., Philadelphia, Pa. (31).
Ashmead, Wm. H., Jacksonville, Fla. (29).
Atkinson, Jno. B., Earlington, Hopkins Co., Ky. (26).
Atwater, Richard M., Millville, N. J. (29).
Atwood, E. S., East Orange, N. J. (29).
Atwood, Oscar, Rutland, Vt. (31).
Auchincloss, Wm. S., 209 Church St., Philadelphia, Pa. (29).
Aughey, Prof. Samuel, Univ. of Nebraska, Lincoln, Neb. (29).
Austin, Miss Mary, Mattapan Station, Milton, Mass. (31).
Ayres, Prof. Brown, Univ. of Louisiana, New Orleans, La. (31).
Ayres, Dr. S. C., 64 W. 7th St., Cincinnati, Ohio (30).

Babbit, John, Fredericton, N. B. (29).
Bailey, E. H. S., Bethlehem, Pa. (25).
Baker, A. L., 32 So. Charles St., Baltimore, Md. (30).
Baker, B. N., 32 So. Charles St., Baltimore, Md. (30).
Baker, Frank, M. D., 366 C St., Washington, D. C. (31).
Baker, Prof. I. O., Illinois Industrial Univ., Champaign, Ill. (30).
Baker, Prof. T. R., Millersville, Lancaster Co., Pa. (22).
Baker, Wm. E., 158 Tremont St., Boston, Mass. (29).
Baldwin, Miss Mary A., Summer Ave., Cor. Kearney St., Newark, N. J. (31).
Baldwin, Very Rev. Dean Maurice S., Montreal, Can. (31).
Balen, Abraham D., Plainfield, N. J. (31).
Ballard, H. H., Lenox, Mass. (31).
Ballou, Nahum E., M. D., Sandwich, Ill. (29).
Ballou, Wm. H., 105 Dearborn Avenue, Chicago, Ill. (29).
Banes, Charles H., 2416 Spring Garden St., Philadelphia, Pa. (31).
Baptie, George, Normal School, Ottawa, Ontario, Can. (29).
Barclay, Robert, A. B., St. Louis, Mo. (30).
Barker, Martha M., care of H. R. Barker, 8 and 10 Central St., Lowell, Mass. (31).

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Barnard, Edward E., care R. Poole, Cherry and Union Sts., Nashville, Tenn. (26).
Barnard, Jas. M., Hotel Vendôme, Boston, Mass. (18).
Barnes, Charles J., Chicago, Ill. (27).
Barrows, Nathan, M. D., Hartford, Conn. (29).
Bartlett, Arthur K., Battle Creek, Mich. (29).
Bartlett, Prof. Edwin J., Dartmouth Coll., Hanover, N. H. (28).
Bartlett, Dr. Homer L., Flatbush, L. I. (28).
Bassett, Daniel A., Crawfordsville, Ind. (29).
Bassett, George W., M.D., Vandalia, Ill. (20).
Bassnett, Thomas, Box 936, Jacksonville, Fla. (8).
Bassnett, Mrs. Thomas, Box 936, Jacksonville, Fla. (24).
Bastian, Dr. David I., Clinton, Worcester Co., Mass. (25).
Bastin, Prof. E. S., Univ. of Chicago, Chicago, Ill. (29).
Batchelor, Charles, Electrician, Menlo Park, N. J. (28).
Batterson, J. G., Hartford, Conn. (23).
Bausch, Edward, Rochester, N. Y. (26).
Bayne, Prof. Herbert A., Royal Military College, Kingston, Ont. (29).
Beach, Charles M., Merchant, Hartford, Conn. (23).
Beach, J. Watson, Merchant, Hartford, Conn. (23).
Beach, William H., Beloit, Wis. (21).
Beadle, Delos W., St. Catharines, Ontario, Can. (31).
Beal, F. E. L., Agricultural College, Ames, Iowa (29).
Beall, Thomas, Lindsay, Ontario, Can. (31).
Beamer, Miles (30).
Bean, Thos. E., Box 441, Galena, Ill. (28).
Beaudry, J. Alphonse U., 97 St. James St., Montreal, Can. (31).
Beauregard, Gen. Gustave T., New Orleans, La. (30). [(29).
Beckwith, Henry C., Passed Ass't Eng'r U. S. N., Coleman's Station, N. Y.
Beebe, Wm. S., Brevet Major, U. S. Army, 25 Grace Court, Brooklyn, N. Y. (30).
Belknap, Chas., Lieut. U. S. N., U. S. S. Vandalia, care Navy Dept., Washington, D. C. (29).
Belknap, Morris B., Louisville, Ky. (29).
Belknap, Wm. B., Louisville, Ky. (29).
Bell, Alex. Melville, 88 Fayette St., Georgetown, D. C. (31).
Bell, John J., Exeter, N. H. (22).
Bell, Thomas D., McGill College, Montreal, Can. (31).
Bemis, Hon. A. S., President of the Common Council, Buffalo, N. Y. [(25).
Bemrose, Joseph, 158 P. O., Montreal, Can. (31).
Benjamin, E. B., 6 Barclay St., New York, N. Y. (19).
Benjamin, Marcus, 43 East 67th St., New York, N. Y. (27).
Berliner, Emile, 95 Milk St., Boston, Mass. (29).
Best, W. F., St. John, N. B. (29).
Beyer, H. G., Passed Ass't Surgeon, U. S. N., 125 Park Ave., Baltimore, Md. (31).
Bickmore, Mrs. Albert S., 12 East 41st St., New York, N. Y. (31).

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Bicknell, Hon. Thos. W., Boston, Mass. (29).
Bigelow, Otis, 605 7th St., Washington, D. C. (30).
Bigelow, Wm. Sturgis, M. D., 61 Beacon St., Boston, Mass. (29).
Bill, Charles, Springfield, Mass. (17).
Birge, Charles P., Keokuk, Iowa (29).
Blackford, Eugene G., 809 Bedford Avenue, Brooklyn, N. Y. (29).
Blackham, Dr. George E., Dunkirk, N. Y. (25).
Blackwell, Mrs. A. B., Somerville, N. J. (30).
Blaisdell, F. E., Poway, San Diego Co., Cal. (29).
Blake, Mrs. Clarence J., 19 St. James Avenue, Boston, Mass. (29).
Blake, Francis C., Penna. Lead Works, Mansfield Valley, Alleghany Co., Pa. (29).
Blake, Prof. John R., Davidson College, N. C. (29).
Blakslee, Prof. T. M., Harpersville, N. Y. (31).
Blanchard, Frederick, Box CC, Lowell, Mass. (29).
Blatchford, Eliphalet W., 375 North La Salle St., Chicago, Ill. (17).
Blatchford, John S., 13 Exchange St., Boston, Mass. (29).
Blodgett, A. N., M.D., Boylston St., Boston, Mass. (29).
Boardman, Miss E. D., 120 Beacon St., Boston, Mass. (29).
Boardman, Mrs. Wm. D., 38 Kenilworth St., Roxbury, Mass. (28).
Bobbitt, Mrs. John, Greensburg, Decatur Co., Ind. (30).
Boerner, Chas. G., Vevay, Ind. (29).
Bolles, Dr. Wm. P., 571 Dudley St., Dorchester, Mass. (29).
Bond, Geo. W., Boston, Mass. (29).
Bookwalter, J. W., Springfield, Ohio (30).
Bourland, Dr. Addison M., Van Buren, Ark. (29).
Bowditch, Frederic C., Box 615, Brookline, Mass. (29).
Bowers, Miss Virginia K., care Wm. Rosselle, Memphis Appeal Office, Memphis, Tenn. (27).
Bowker, W. H., 43 Chatham St., Boston, Mass. (30).
Bowles, George J., 1466 St. Catherine St., Montreal, Can. (31).
Bowles, Miss Margaretta, The Institute, Columbia, Tenn. (26).
Boyd, William, Cambridge, Mass. (29).
Boynton, Miss S. P., Box 150, Lynn, Mass. (19).
Brackett, John W., 581 Washington St., Boston, Mass. (29).
Brackett, Solomon H., St. Johnsbury, Vt. (29).
Bradford, Edward H., M. D., 150 Boylston St., Boston, Mass. (29).
Bradford, Royal B., Lt. Comd'r, U. S. N., 21 Brinley St., Newport, R. I. (31).
Bradley, C. W., cor. 3d and Walnut Sts., Cincinnati, Ohio (27).
Bragg, Everett B., No. 3 Park Place, New York, N. Y. (29).
Brainerd, Thos. C., P. O. Box 720, Montreal, Can. (31).
Brandegee, T. S., Berlin, Conn. (29).
Branlette, Mrs. T. E., Louisville, Ky. (29).
Branstrup, Dr. W. T., Vincennes, Ind. (30).
Bray, Prof. C. D., College Hill, Mass. (29).
Bray, Mrs. Maria H., West Gloucester, Mass. (29).

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Breckinridge, S. M., Box 2794, St. Louis, Mo. (27).
Brewster, William, 61 Sparks St., Cambridge, Mass. (29).
Brissette, Milton H., Montreal, Can. (31).
Bronnson, W. H., Lt. Comd'r U. S. N., Yonkers, N. Y. (31).
Bronson, E. H., Ottawa, Ontario, Can. (31).
Brooks, Miss Margarette W., Salem, Mass. (29).
Broomall, Hon. John M., Media, Delaware Co., Pa. (23).
Brownell, Prof. Walter A., 725 Irving St., Syracuse, N. Y. (30).
Brown, Miss Anne, 528 West 7th St., Cincinnati, Ohio (31).
Brown, Arthur, C. E., Oakland, Alameda Co., Cal. (31).
Brown, Asa Warren, Newport, Ky. (30).
Brown, Mrs. Ashley, 115 Wilkinson St., Dayton, Ohio (25).
Brown, Prof. C. J., Randolph, N. Y. (31).
Brown, Fred. G., care of McKesson and Robbins, 93 Fulton St., New York, N. Y. (31).
Brown, Hon. John C., Vice President, Texas and Pacific R. R. Co., Pulaski, Tenn. (26).
Brown, Jonathan, 390 Broadway, Somerville, Mass. (29).
Brühl, Gustav, N. W. cor. John and Hopkins Sts., Cincinnati, Ohio (28).
Bryant, Wm. S., 61 Beacon St., Boston, Mass. (30).
Buck, C. Elton, Wilmington, Del. (29).
Buck, Henry C., West Somerville, Mass. (29).
Buckingham, Chas. L., U. S. Patent Office, Washington, D. C. (28).
Buffum, Miss Fannie A., Linden, Mass. (29).
Bull, John, Room 30, Corcoran Building, Washington, D. C. (31).
Bulloch, Walter H., 99 W. Monro St., Chicago, Ill. (30).
Burdick, Edson A., 408 Spruce St., Le Droit Park, Washington, D. C (30).
Burke, Jos. C., Middletown, Conn. (29).
Burke, William, U. S. Patent Office, Washington, D. C. (28).
Burland, Jeffrey H., Montreal, Can. (31).
Burpee, J. P. C., St. John, N. B. (30).
Burr, Prof. William H., Troy, N. Y. (31).
Bush, Rev. Stephen, D. D., Waterford, N. Y. (19).
Butcher, Mrs. Z. D., Washington, D. C. (29).
Butler, A. W., Brookville, Franklin Co., Ind. (30).
Butler, Cyrus, 24 Cliff St., New York, N. Y. (29).
Bynner, Edwin L., 13 Pemberton Square, Boston, Mass. (29).
Byrnes, R. M., M. D., cor. 5th and Race Sts., Cincinnati, Ohio (30).

Cabot, Sam'l, jr., 53 Kilby St., Boston, Mass. (29).
Calder, Edwin E., Box 17, Providence, R. I. (29).
Caldwell, Albert G., Lt. Comd'r U. S. N., Torpedo Station, Newport, R. I. (31).
Caldwell, Dr. Frank, Cincinnati Hospital, Cincinnati, Ohio (30).
Calkins, Dr. Marshall, Springfield, Mass. (29).
Campbell, Rev. Prof. John, Presbyterian College, Montreal, Can. (31).

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Canfield, Rev. Eli H., D.D., Arlington, Bennington Co., Vt. (25).
Capen, Miss Bessie T., Northampton, Mass. (23).
Cargill, H. L., St. Lawrence Hotel. Montreal, Can. (31).
Carman, Ezra A., Dept. of Agric., Washington, D. C. (30).
Carman, Lewis, Bangall, N. Y. (29).
Caron, C. K., Louisville, Ky. (30).
Carpenter, Geo. O., jr., care St. Louis Lead & Oil Co., St. Louis, Mo. (29).
Carpmael, Charles, Director of Magnetic Observatory, Toronto, Can. (31).
Carrington, Col. Henry B., U. S. A., care Adj. Gen. U. S. A., Washington, D.C. (20).
Case, Col. Theo. S., Ed. Western Review of Science, Kansas City, Mo. (27).
Cassino, S. E., Naturalists' Agency. 41 Arch St., Boston, Mass. (25).
Castle, Frederick A., M. D., 102 East 57th St., New York, N. Y. (29).
Castner, Dr. H. Y., 197 Pearl St., New York, N. Y. (30).
Caswell, John H., 11 West 48th Street, New York, N. Y. (26).
Chabert, L'Abbé Joseph, 80 St. Gabriel St., Montreal, Can. (31).
Chace, Arnold B., Valley Falls, R. I. (29).
Chadbourn, Erlon R., Lewiston, Me. (29).
Chadwick, James R., M. D., Clarendon St., Boston, Mass. (29).
Chance, H. Martyn, 2433 Fairmount Avenue, Philadelphia, Pa. (29).
Chandler, Prof. Chas. Henry, Ripon, Wis. (28).
Channing, Dr. Wm. F., Providence, R. I. (29).
Chapman, F. M., Danforth, Iroquois Co., Ill. (17).
Chapman, Henry C., M. D., 1226 Walnut St., Philadelphia, Pa. (29).
Charbonnier, Prof. L. H., University of Georgia, Athens, Ga. (26).
Chase, Prof. F. A., Fisk University, Nashville, Tenn. (26).
Chase, Mrs. Marine J., 1622 Locust St., Philadelphia, Pa. (31).
Chase, Prof. Pliny E., Haverford College, Haverford, Pa. (18).
Chase, R. Stuart, 16 Merrimack St., Haverhill, Mass. (18).
Chatfield, A. F., Albany, N. Y. (29).
Chenault, Prof. J. W., Louisville, Ky. (30).
Chester, Lt. Com'dr Colby M., U. S. N., Coast Survey Office, Washington, D. C. (28).
Childe, John Healey, Boston, Mass. (31).
Cisco, J. G., Jackson, Tenn. (29).
Clapp, Miss Cornelia M., Mt. Holyoke Seminary, South Hadley, Mass. (31).
Clark, John S., 64 Pinckney St., Boston, Mass. (31).
Clark, Simeon T., M.D., Lockport, Niagara Co., N. Y. (25).
Clarke, Miss Cora H., Jamaica Plain, Mass. (29).
Clarke, Prof. John M., Northampton, Mass. (31).
Clarke, Maurice D., 68 Ohio St., East Cambridge, Mass. (29).
Clarke, Robert, Cincinnati, Ohio (30).
Cleveland, J. L., 547 W. 8th St., Cincinnati, Ohio (30).
Clevenger, Dr. S. V., 189 37th St., Chicago, Ill. (29).
Cloud, Jno. W., Altoona, Pa. (28).
Coakley, George W., LL.D., Hempstead, L. I. (29).
Cobb, Samuel C., 235 Boylston St., Boston, Mass. (29).

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Cobb, Rev. Sanford H., Saugerties, N. Y. (29).
Coffin, Amory, Phœnixville, Pa. (31).
Coffinberry, W. L., Grand Rapids, Mich. (20).
Colburn, Richard T., Elizabeth, N. J. (31).
Colby, C. E., M. E., School of Mines, Columbia College, New York, N. Y. (28).
Cole, Frederick, 1394 St. Catherine St., Montreal, Can. (31).
Colie, Edw. M., East Orange, N. J. (30).
Collier, M. Dwight, St. Louis, Mo. (27).
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Williams, Prof. Edward H., jr., Box 463, Bethlehem, Pa. (25).
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Williams, Frank, Buffalo, N. Y. (25).
Williams, G. Henry, Baltimore, Md. (30).
Williams, J. Francis, Salem, N. Y. (31).
Williams, Janet W., Newton Lower Falls, Mass. (31).
WILLIAMS, P. O., M.D., Watertown, Jefferson Co., N. Y. (24).
Williams, Rev. R. R., Canajoharie, Montgomery Co., N. Y. (28).
Willoughby, Hugh L., Saratoga Springs, N. Y. (28).
Wills, William R., Waltham, Mass. (30).
Willson, Robert W., Box 853, New Haven, Conn. (30).
Wilmot, Thos. J., Direct U. S. Cable Co., Rye, N. H. (27).
Wilson, C. H., Rugby, Tenn. (30).
Wilson, H. C., Mt. Lookout, Hamilton Co., Ohio (30).
Wilson, M. C., Florence, Ala. (26).
Wilson, Prof. P. B., 44 Second St., Baltimore, Md. (30).
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Winston, Prof. Chas. H., Richmond College, Richmond, Va. (30).

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Witherbee, Frank S., care Witherbees, Sherman & Co., Port Henry, N. Y. (29).
Wolcott, Mrs. Henrietta L. T., Hotel Vendôme, Boston, Mass. (29).
WOOD, DR. ROBERT W., Jamaica Plain, Mass. (29).
Wood, Dr. Wm., Portland, Me. (29).
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Woodward, J. J., M. D., Army Medical Museum, Washington. D. C. (28).
Woodward, Richard W., South Pueblo, Col. (29).
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Wright, Harrison, Sec'y Wyoming Hist. and Geol. Soc., Wilkes Barré, Pa. (29).
Wright, Smithson E., Treasurer's Office, L. M. R. R. Co., Cincinnati, Ohio (30).
Wylie, Samuel B., Bloomington, Ind. (30).

Youmans, Wm. Jay, M. D., Popular Science Monthly, 549 Broadway, New York, N. Y. (28).
Young, Prof. Andrew H., Hanover, Ind. (30).

Zimmerman, Charles D., Buffalo, N. Y. (30).
Zimmerman, William, Room 22, 142 Dearborn St., Chicago, Ill. (30).
Zinke, E. Gustav, M. D., Elm St., near 14th, Cincinnati, Ohio (30).
Zwick, G. A., 11th and Madison Sts., Covington, Ky. (30).

[1407 MEMBERS.]

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HONORARY FELLOW.[1]

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FELLOWS.[2]

Abbe, Prof. Cleveland, Washington, D. C. (16). 1874.
Agassiz, Alex., Curator Mus. Comp. Zool., Cambridge, Mass. (18). 1875.
Alexander, John S., 1935 Arch St., Philadelphia, Pa. (20). 1874.
Allen, Dr. Harrison, 117 South 20th St., Philadelphia, Pa. (29). 1882.
Allen, Joel A., Mus. Comp. Zoology, Cambridge, Mass. (18). 1875.
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Alvord, Henry E., C. E., Houghton Farm, Mountainville, Orange Co., N. Y. (29). 1882.
Anthony, Prof. Wm. A., Cornell Univ., Ithaca, N. Y. (28). 1880.
Appleton, Prof. John H., Brown Univ., Providence, R. I. (22). 1874.
Ashburner, Wm., 1014 Pine St., San Francisco, Cal. (29). 1882.
Atkinson, Edward, 131 Devonshire St., Boston, Mass. (29). 1881.
Atwater, Prof. W. O., Wesleyan Univ., Middletown, Conn. (29). 1882.
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Austin, E. P., 46 E. Newton St., Boston, Mass. (18). 1874.

Bailey, Prof. Loring W., University of Fredericton, N. B. (18). 1875.
Bailey, Prof. W. W., Brown University, Providence, R. I. (18). 1874.
Baird, Prof. S. F., Sec'y Smithsonian Inst., Washington, D. C. (1). 1875.
Baker, Marcus, Coast Survey Office, Washington, D. C. (30). 1882.
Ballou, Geo. F., Waltham, Mass. (29). 1881.
Bandelier, Ad. F., Highland, Ill. (25). 1879.
BARKER, PROF. G. F., Univ. of Penn., Philadelphia, Pa. (13). 1875.
Barnard, F. A. P., President Columbia College, New York, N. Y. (7). 1874.
Barnard, Prof. Wm. S., U. S. Dept. Agric., Washington, D. C. (24). 1880.
Bartlett, J. R., Comd'r U. S. N., care of C. & G. Survey Office, Washington, D. C. (30). 1882.
Bassett, Homer F., Waterbury, Conn. (23). 1874.
Batchelder, Dr. J. H., Salem, Mass. (18). 1874.
Batchelder, John M., 3 Divinity Avenue, Cambridge, Mass. (8). 1875.
Beal, Prof. Wm. James, Agricultural College, Lansing, Mich. (24). 1880.
Belknap, George E., Capt. U. S. N., care Fred. L. Wheeler & Co., Box 3522, Boston, Mass. (29). 1881.

[1] See ARTICLE VI of the Constitution. [2] See ARTICLE IV of the Constitution.

*** The number in parenthesis indicates the meeting at which the member joined the Association; the date at the end of the line the time when made a Fellow.

When the name is given in small capitals, it designates that the Fellow is also a life member, and is entitled to the Annual Volume of Proceedings.

* Deceased.

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S— Bell, Dr. Alex. Graham, Scott Circle, 1500 Rhode Island Ave., Washington, D. C. (26). 1879.
S— Bell, Samuel N., Manchester, N. H. (7). 1874.
S— Bessey, Prof. C. E., Agricultural College, Ames, Iowa (21). 1880.
Bethune, Rev. C. J. S., Trinity Coll. School, Pt. Hope, Canada (18). 1875.
S— Bickmore, Prof. Albert S., American Museum of Natural History, Central Park, New York, N. Y. (17). 1880.
S— Blair, Henry W., U. S. C. & G. Survey Office, Washington, D. C. (26). [1882.
S— Blake, Clarence J., M. D., Hotel Berkeley, Boston, Mass. (24). 1877.
Blake, Eli W., New Haven, Conn. (1). 1874.
Blake, Prof. Eli W., jr., Providence, R. I. (15). 1874.
S— Blake, Francis, Auburndale, Mass. (23). 1874.
Bolton, Dr. H. Carrington, Trinity Coll., Hartford, Conn. (17). 1875.
Borden, Spencer, Fall River, Mass. (29). 1882.
Boss, Prof. Lewis, Director Dudley Observ., Albany, N. Y. (26). 1878.
S Bouvé, Thos. T., Boston Soc. Nat. Hist., Boston, Mass. (1). 1875.
Bowditch, Prof. H. P., Harvard Med. School, Boston, Mass. (28). 1880.
~~Bowditch, Henry I., M.D., 118 Boylston St., Boston, Mass.~~ (2). 1875.
Bowser, Prof. E. A., Rutgers College, New Brunswick, N. J. (28). 1881.
S— Brackett, Prof. C. F., College of New Jersey, Princeton, N. J. (19). 1875.
Breneman, A. A., Ithaca, N. Y. (20). 1880.
S— Brewer, Prof. Wm. H., New Haven, Conn. (20). 1875.
Britton, N. L., Columbia College, New York, N. Y. (29). 1882.
~~Broadhead, Garland Carr, Pleasant Hill, Cass Co., Mo.~~ (27). 1879.
Brooks, Major Thomas B., Geol. State Surveys, Mich. and Wis., Newburgh, N. Y. (26). 1879.
~~Bross, Hon. Wm., Chicago~~, Ill. (7). 1874.
Broun, Prof. W. LeRoy, Vanderbilt Univ., Nashville, Tenn. (25). 1877.
Brown, Robert, jr., care of Yale College Observatory, New Haven, Conn. (11). 1874.
~~Brown, Mrs. Robert, jr., New Haven, Conn.~~ (17). 1874.
S— Brush, Prof. George J., Yale College, New Haven, Conn. (4). 1874.
Buckhout, W. A., State College, Centre Co., Pa. (20). 1881.
S— Burgess, Edward, Sec. Natural History Soc., Boston, Mass. (22). 1877.
S— Burnham, S. W., 52 Vincennes Ave., Chicago, Ill. (25). 1877.
Burrill, Prof. T. J., Illinois Industrial Univ., Champaign, Ill. (29). 1882.

Caldwell, Prof. Geo. C., Cornell University, Ithaca, N. Y. (23). 1875.
S— Call, Prof. R. Ellsworth, David City, Neb. (29). 1882.
Canby, Wm. M., 1101 Delaware Avenue, Wilmington, Del. (17). 1878.
Capen, Rev. Francis L., Boston, Mass. (23). 1874.
S— Carhart, Prof. Henry S., Evanston, Ill. (29). 1881.
S— Carmichael, Prof. Henry, Bowdoin College, Brunswick, Me. (21). 1875.
Carpenter, Lieut. W. L., U. S. A., Dunkirk, N. Y. (24). 1877.
S— Carr, Lucien, Peabody Mus. Arch. and Ethn., Cambridge, Mass. (25). 1877.
Chamberlain, Wm. I., Sec. Ohio State Bd. of Agric., Columbus, Ohio (30). 1882.

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Chamberlin, T. C., Beloit College, Beloit, Wis. (21). 1877.
Chandler, Prof. C. F., School of Mines, Columbia Coll., 50th St. cor. 4th Ave., New York, N. Y. (19). 1875.
Chandler, Seth C., jr., Harvard Observatory, Cambridge, Mass. (29). 1882.
Chandler, Prof. W. H., The Lehigh Univ., Bethlehem, Pa. (19). 1874.
Chanute, O., care Erie Railway, New York, N. Y. (17). 1877.
Chesbrough, E. S., Chicago, Ill. (2). 1877.
Chester, Prof. Albert H., Hamilton College, Clinton, N. Y. (29). 1882.
Chickering, Prof. J. W., jr., Deaf Mute College, Washington, D. C. (22). 1877.
Chittenden, Russell H., Ph. D., 95 Humphrey St., New Haven, Conn. (29). 1882.
Clark, Alvan G., Cambridgeport, Mass. (28). 1880.
Clark, Prof. John E., Mathematics, Yale College, New Haven, Conn. (17). 1875.
Clarke, Prof. F. W., U. S. Geological Survey, Washington, D. C. (18). 1874.
Claypole, Edw. W., B. A., New Bloomfield, Perry Co., Pa. (30). 1882.
Coffin, Prof. John H. C., U. S. Navy, Washington, D. C. (1). 1874.
Coffin, Prof. Selden J., Ph.D., Lafayette College, Easton, Pa. (22). 1874.
Collett, Prof. John, Chief Indiana Bureau of Statistics of Geology, Indianapolis, Ind. (17). 1874.
Collier, Peter, Dept. of Agric., Washington, D. C. (29). 1882.
Colvin, Verplanck, Supt. N. Y. State Adirondack Survey, Albany, N. Y. (28). 1880.
Comstock, J. Henry, Cornell Univ., Ithaca, N. Y. (28). 1882.
Comstock, Prof. M. L., Ph. D., Galesburg, Knox Co., Ill. (21). 1874.
Cook, Prof. A. J., Agricultural College, Lansing, Mich. (24). 1880.
Cook, Prof. George H., New Brunswick, N. J. (4). 1875.
Cooley, Prof. Le Roy C., Vassar College, Poughkeepsie, N. Y. (19). 1880.
Cope, Prof. Edward D., 2100 Pine St., Philadelphia, Pa. (17). 1875.
~~Cox, Prof. Edward T.~~ (19). 1874.
Cox, Hon. Jacob D., 103 Broadway, Cincinnati, Ohio (30). 1881.
Coxe, Eckley B., Drifton, Luzerne Co., Pa. (23). 1879.
Crocker, Susan E., M.D., Lawrence, Mass. (21). 1874.
Crosby, Wm. O., Mass. Inst. Technology, Boston, Mass. (29). 1881.
Cross, Prof. Chas. R., Mass. Inst. Technology, Boston, Mass. (29). 1880.
Cummings, Rev. Joseph, D.D., Pres. Northwestern Univ., Evanston, Ill. (13). 1874.
Curtis, Dr. Josiah, Washington, D. C. (18). 1874.
Cutting, Hiram A., M.D., State Geologist, Lunenburgh, Vt. (17). 1874.

Dabney, Chas. W., jr., Ph. D., Agric. Experiment Station, Raleigh, N. C. (30). 1882.
Dall, Mrs. Caroline H., 31st St., Washington, D. C. (18). 1874.
Dall, Wm. H., Smithsonian Institution, Washington, D. C. (18). 1874.
Dana, Edward Salisbury, New Haven, Conn. (23). 1875.
Dana, Prof. James D., New Haven, Conn. (1). 1875.

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Danforth, Edward, Dep't of Public Instruction, Elmira, N. Y. (11). 1874.
Davidson, Prof. Geo., Asst. Coast and Geodetic Survey, San Francisco, Cal. (29). 1881.
Dawson, Dr. J. W., Principal McGill Coll., Montreal, Canada (10). 1875.
Day, F. H., M. D., Wauwatosa, Wis. (20). 1874.
Dean, George W., P. O. Box 92, Fall River, Mass. (15). 1874.
Dimmock, George, Cambridge, Mass. (22). 1874.
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Dodge, Charles R., Washington, D. C. (22). 1874.
Dolbear, A. Emerson, College Hill, Mass. (20). 1880.
Draper, Dan'l, Ph.D., Director N. Y. Meteorological Observatory, Central Park, 64th St., Fifth Avenue, New York, N. Y. (29). 1881.
Drown, Prof. Thos. M., Lafayette College, Easton, Pa. (29). 1881.
Du Bois, Prof. Aug. J., New Haven, Conn. (30). 1882.
Dudley, Charles B., Altoona, Pa. (23). 1882.
Dudley, Wm. L., Miami Med. College, Cincinnati, Ohio (28). 1881.
~~Dunnington, Prof. F. P., University of Virginia, Va.~~ (26). 1880.
Dutton, Capt. C. E., U. S. Ord. Dep't, Washington, D. C. (23). 1875.
Dwight, Prof. Wm. B., Vassar College, Poughkeepsie, N. Y. (30). 1882.
Dwyer, John, M. D., Hartford, Conn. (23). 1874.

Eads, Jas. B., 314 Chestnut Street, St. Louis, Mo. (27). 1879. [1879.
Eastman, Prof. J. R., U. S. Naval Observatory, Washington, D. C. (26).
Eaton, Prof. D. G., Packer Institute, Brooklyn, N. Y. (19). 1874.
Eddy, Prof. H. T., University of Cincinnati, Cincinnati, Ohio (24). 1875.
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Edmands, J. Rayner, Observatory, Cambridge, Mass. (29). 1880.
Egleston, Prof. Thos., School of Mines, Columbia College, New York, N. Y. (27). 1879.
Eimbeck, Wm., U.S.C.S., Washington, D. C. (17). 1874.
Elliott, Arthur H., School of Mines, Columbia College, New York, N. Y. (23). 1880.
Elliott, Ezekiel B., Government Actuary, Treasury Dept., Washington, D. C. (10). 1874.
Elsberg, Louis, M.D., 614 Fifth Avenue, New York, N. Y. (23). 1874.
Emerson, Prof. Benjamin K., Amherst, Mass. (19). 1877.
Emerson, Prof. C. F., Dartmouth College, Hanover, N. H. (22). 1874.
Emerton, James H., Salem, Mass. (18). 1875.
Emmons, S. F., Box 2836, Denver, Col. (26). 1879.
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Engelmann, Geo. J., M. D., 3003 Locust St., St. Louis, Mo. (25). 1878.
Ernst, Carl W., Daily Advertiser, Boston, Mass. (23). 1874.
Eustis, Prof. Henry L., Cambridge, Mass. (2). 1874.
Evans, Asher B., Principal Union School, Lockport, N. Y. (19). 1874.

Fairbanks, Henry, Ph. D., St. Johnsbury, Vt. (14). 1874.
Farlow, Dr. W. G., 6 Park Square, Boston, Mass. (20). 1875.

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S—Farmer, Moses G., Torpedo Station, Newport, R. I. (9). 1875.
Farquharson, Dr. Robert James, Des Moines, Iowa (24). 1880.
Ferguson, Maj. Thos. B., Ass't U. S. Fish Commissioner, Washington, D. C. (28). 1881.
S—Fernald, Prof. Charles H., State Agricultural College, Orono, Me. (22). 1881.
S—Ferrel, Wm., U. S. Coast Survey Office, Washington, D. C. (11). 1875.
Ficklin, Prof. Joseph, Univ. of Missouri, Columbia, Mo. (20). 1878.
Fitch, Edward H., Jefferson, Ashtabula Co., Ohio (11). 1874.
S—Fletcher, Dr. Robert, Surgeon General's Office, Washington, D. C. (29). 1881.
S—Flint, James M., Surgeon U. S. N., 42 Dartmouth St., Boston, Mass. (28). 1882.
Foote, Dr A. E., 1223 Belmont Avenue, Philadelphia, Pa. (21). 1874.
S—Forbes, Prof. S. A., Normal, Ill. (27). 1879.
S—Frazer, Dr. Persifor, Ass't Geologist, 2d Geol. Survey of Pa., 917 Clinton St., Philadelphia, Pa. (24). 1879.
Frazier, Prof. B. W., The Lehigh University, Bethlehem, Pa. (24). 1882.
Freeman, H. C., Alto Pass, Union Co., Ill. (17). 1876.
Frisby, Prof. Edgar, U. S. N. Observ., Washington, D. C. (28). 1880.
Fuller, Andrew S., Ridgewood, Bergen Co., N. J. (24). 1882.

S—Gage, Simon Henry, Ithaca, N. Y. (28). 1881.
S—Gardiner, Rev. Frederic, D.D., Middletown, Conn. (23). 1874.
S—Gardner, James T., Director N. Y. State Survey, Albany, N. Y. (25). 1879.
Garland, Rev. Dr. L. C., Chancellor Vanderbilt Univ., Nashville, Tenn. (25). 1877.
S—Garman, S., Museum Comp. Zoology, Cambridge, Mass. (20). 1874.
Gatschet, Albert S., Bureau of Ethnology, Washington, D. C. (30). 1882.
S—Genth, Prof. F. A., Univ. of Pennsylvania, Philadelphia, Pa. (24). 1875.
S—Gilbert, G. K., Box 240, Salt Lake City, Utah (18). 1874.
~~Gillman, Henry, 155 Adams Avenue East, Detroit, Mich.~~ (24). 1875.
S—Gilman, Daniel C., President of the Johns Hopkins University, Baltimore, Md. (10). 1875.
Goessman, Prof. C. A., Mass. Agric. Coll., Amherst, Mass. (18). 1875.
S—Goldschmidt, S. A., Ph. D., Morse Building, 140 Nassau St., New York, N. Y. (24). 1880.
Gooch, Frank A., U. S. Geological Survey, Newport, R. I. (25). 1880.
S—Goodale, Prof. G. L., Botanic Gardens, Cambridge, Mass. (18). 1875.
S—Goode, Prof. G. Brown, Curator National Museum, Washington, D. C. (22). 1874.
Goodfellow, Edward, Ass't U. S. Coast and Geodetic Survey, Washington, D. C. (24). 1879.
Grant, Mrs. Mary J., Brookfield, Conn. (23). 1874.
S—Gray, Prof. Asa, Botanic Gardens, Cambridge, Mass. (1). 1875.
—Green, Traill, M. D., Easton, Pa. (1). 1874.
Grimes, J. Stanley, 406 Sycamore St., Milwaukee, Wis. (17). 1874.

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Grote, Aug. R., New Brighton, Staten Island, N. Y. (22). 1875.
S— Guyot, Prof. Arnold, Princeton, N. J. (1). 1875.

S— Hagen, Dr. Hermann A., Mus. Comp. Zool., Cambridge, Mass. (17). 1875.
Hague, Arnold, 10 West 29th St., New York, N. Y. (26). 1879.
S— Hale, Horatio, Clinton, Ontario, Can. (30). 1882.
S— Hall, Prof. Asaph, U. S. Naval Observ., Washington, D. C. (25). 1877.
S— Hall, Edwin H., Johns Hopkins Univ., Baltimore, Md. (29). 1881.
S— Hall, Prof. James, Albany, N. Y. (1). 1875.
Hamlin, Dr. A. C., Bangor, Me. (10). 1874.
S— Harger, Oscar, Yale College Museum, New Haven, Conn. (25). 1879.
Harkness, Prof. Wm., U. S. N., U. S. Observatory, Washington, D. C. (26). 1878.
S— Harrington, Prof. Mark W., Ann Arbor, Mich. (22). 1875.
S— Harrison, Dr. B. F., Wallingford, Conn. (11). 1874.
Hasbrouck, Prof. I. E., Rutgers Coll., New Brunswick, N. J. (23). 1874.
S— Haskins, Rev. David Greene, Cambridge, Mass. (25). 1874.
S— Hastings, C. S., Johns Hopkins University, Baltimore, Md. (25). 1878.
S— Hazen, Brig. Gen. Wm. B., Chief Signal Office, U. S. A., Washington, D. C. (30). 1882.
Hedrick, B. S., Exam'r U. S. Pat. Office, Washington, D. C. (19). 1874.
Henderson, John G., Winchester, Ill. (25). 1879.
S— Henshaw, Henry W., Care Major J. W. Powell, 910 M St., Washington, D. C. (24). 1877.
~~Harvey, Rev. A. B., Taunton, Mass.~~ (22). 1879.
S— Hilgard, Prof. E. W., Univ. of California, Berkeley, Cal. (11). 1874.
S— Hilgard, Prof. J. E., U. S. Coast Survey, Washington, D. C. (4). 1874.
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S— Hill, George W., Nautical Almanac Office, Navy Department, Washington, D. C. (23). 1874.
Hill, Rev. Dr. Thomas, 738 Congress St., Portland, Me. (3). 1875.
S— Hill, Walter N., Chester, Pa. (29). 1881.
Himes, Prof. Charles F., Carlisle, Pa. (29). 1882.
S— Hitchcock, Prof. Charles H., Hanover, N. H. (11). 1874.
S— Hitchcock, Romyn, 53 Maiden Lane, New York, N. Y. (29). 1881.
S— Hodges, N. D. C., Salem, Mass. (29). 1882.
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Holden, Prof. E. S., Director Washburn Observatory, Univ. of Wisconsin, Madison, Wis. (23). 1875.
S— Holmes, Dr. Oliver Wendell, 296 Beacon St., Boston, Mass. (29). 1881.
S— Horsford, Prof. E. N., Cambridge, Mass. (1). 1876.
Hough, Franklin B., Lowville, N. Y. (4). 1874.
Hough, G. W., Director Dearborn Observatory, Chicago, Ill. (15). 1874.
Hoy, Philo R., M.D., Racine, Wis. (17). 1875.
~~Hunt, George, Providence, R. I.~~ (9). 1874.
S— Hunt, Dr. T. Sterry, Montreal, Canada (1). 1874.
Huntington, Prof. J. H., Boston, Mass. (19). 1874.

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Hyatt, James, Stanfordville, Dutchess Co., N. Y. (10). 1874.
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James, Jos. F., 177 Race St., Cincinnati, Ohio (30). 1882.
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Jenks, Elisha T., Middleborough, Mass. (22). 1874.
Jenks, Prof. J. W. P., Middleborough, Mass. (2). 1874.
Jewell, Theo. F., Lt. Comdr. U.S.N., Torpedo Station, Newport, R. I. (25). 1882.
Jillson, Dr. B. C., Illinois Industrial Univ., Champaign, Ill. (14). 1881.
Johnson, Prof. S. W., Sheffield Sci. School, New Haven, Conn. (22). 1874.
Johnson, Prof. W. W., Annapolis, Md. (29). 1881.
Joy, Prof. Charles A., Stockbridge, Mass. (8). 1879.
Julien, A. A., School of Mines, Columbia Coll., New York, N. Y. (24). 1875.

Kedzie, Prof. Robert C., Lansing, Mich. (29). 1881.
Kendall, Prof. E. Otis, 3826 Locust St., Philadelphia, Pa. (29). 1882.
Kennan, George, 1318 Mass. Avenue, Washington, D. C. (30). 1882.
Kent, William, Pittsburgh, Pa. (26). 1881.
Kerr, Prof. W. C., Raleigh, N. C. (10). 1874.
Kirkwood, Prof. Daniel, Bloomington, Ind. (7). 1874.

Lambert, Rev. Thomas R., D.D., Charlestown, Mass. (18). 1874.
Langdon, Dr. F. W., 65 West 7th St., Cincinnati, Ohio (30). 1882.
Langley, Prof. J. W., Univ. of Michigan, Ann Arbor, Mich. (23). 1875.
Langley, Prof. S. P., Director of Observatory, Allegheny, Pa. (18). 1874.
Lanza, Prof. Gaetano, Mass. Inst. of Technology, Boston, Mass. (29). 1882.
Lattimore, Prof. S. A., Univ. of Rochester, Rochester, N. Y. (15). 1874.
Lawrence, George N., 45 E. 21st St., New York, N. Y. (7). 1877.
Lazenby, Prof. Wm. R., Ithaca, N. Y. (30). 1882.
Lea, Dr. Isaac, 1622 Locust St., Philadelphia, Pa. (1). 1875.
LeConte, Dr. John L., 1625 Spruce St., Philadelphia, Pa. (1). 1874.
LeConte, Prof. Joseph, Univ. of Cal., Berkeley, Cal. (29). 1881.
Ledoux, Albert R., Ph. D., 17 Cedar St., New York, N. Y. (26). 1881.
Leeds, Prof. Albert R., Stevens Institute, Hoboken, N. J. (23). 1874.
Lesley, Prof. J. Peter, State Geol. of Pa., 1008 Clinton St., Philadelphia, Pa. (2). 1874.
Lewis, Prof. Henry C., E. Washington Lane, Germantown, Pa. (26). 1880.
LILLY, GEN. WM., Mauch Chunk, Carbon Co., Pa. (28). 1882.
Lindsley, Dr. J. Berrien, Nashville, Tenn. (1). 1874.
Lintner, J. A., N. Y. State Mus. of Nat. Hist., Albany, N. Y. (22). 1874.
Little, W. C., Albany, N. Y. (22). 1874.
Litton, Abram, Washington University, St. Louis, Mo. (28). 1879.
Lockwood, Rev. Samuel, Freehold, Monmouth Co., N. J. (18). 1875.
Loomis, Prof. Elias, New Haven, Conn. (1). 1874.

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Lord, Prof. Nat. W., State Univ., Columbus, Ohio (29). 1881.
Loudon, Prof. James, Toronto, Can. (25). 1881.
Loughridge, Prof. R. H., Berkeley, Cal. (21). 1874.
Love, Edward G., School of Mines, Columbia College, New York, N. Y. (24). 1882.
S— Lovering, Prof. Joseph, Harvard University, Cambridge, Mass. (2). 1875.
S— Lull, Edward P., Captain U. S. N., Navy Yard, Boston, Mass. (28). 1880.
Lupton, Prof. N. T., Vanderbilt University, Nashville, Tenn. (17). 1874.
Lyle, David Alexander, Capt. of Ordnance U. S. A., National Armory, Springfield, Mass. (28). 1880.
Lyman, Prof. Chester S., New Haven, Conn. (4). 1875.
S— Lyman, Hon. Theodore, Brookline, Mass. (23). 1875.
Lyon, Dr. Henry, 34 Monument Sq., Charlestown, Mass. (18). 1874.

S— Mabery, C. F., Cambridge, Mass. (29). 1881.
Macfarlane, James, Towanda, Pa. (29). 1882.
Macloskie, Prof. George, College of New Jersey, Princeton, N. J. (25). 1882.
S— Mallery, Brevet Lieut. Col. Garrick, U. S. Army, Box 585, Washington, D. C. (26). 1879.
S— Mann, B. Pickman, U. S. Dep't of Agric., Washington, D. C. (22). 1874.
Marcy, Oliver, LL.D., Evanston, Ill. (10). 1874.
S— Mark, Edw. L., 48 Shepard St., Cambridge, Mass. (21). 1879.
Markoe, Geo. F. H., 61 Warren St., Roxbury, Mass. (29). 1881.
S— Marsh, Prof. O. C., Yale College, New Haven, Conn. (15). 1874.
Martin, Prof. Daniel S., Rutgers Female College, New York, N. Y. (23). 1879.
S— Martin, Prof. H. Newell, Johns Hopkins Univ., Baltimore, Md. (27). 1880.
Mason, Prof. Otis T., Columbian University, Washington, D. C. (25). 1877.
Mayer, Prof. A. M., So. Orange, N. J. (19). 1874.
McCauley, Capt. C. A. H., Ass't Q. M., U. S. A., 321 Michigan Ave., Chicago, Ill. (29). 1881.
S— McGee, W. J., U. S. Geol. Survey, Salt Lake City, Utah (27). 1882.
McMurtrie, William, Dep't Agriculture, Washington, D. C. (22). 1874.
S— McNair, Lt. Commander Antoine R., U. S. N., Box 1071, Saratoga Springs, N. Y. (28). 1882.
McRae, Hamilton S., Supt. of Schools, Muncie, Ind. (20). 1874.
Meehan, Thomas, Germantown, Pa. (17). 1875.
Mees, Carl Leo, Columbus, Ohio (24). 1876.
S— Mendenhall, Prof. T. C., Columbus, Ohio (20). 1874.
Merriman, C. C., Rochester, N. Y. (29). 1880.
Michelson, A. A., Master U. S. N., Nautical Almanac Office, Washington, D. C. (26). 1879.
S— Minot, Charles Sedgwick, Roslindale P. O., Boston, Mass. (28). 1880.
S— Mitchell, Miss Maria, Vassar College, Poughkeepsie, N. Y. (4). 1874.
S— Mixter, Prof. Wm. G., New Haven, Conn. (30). 1882.

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Moore, Prof. J. W., M. D., Lafayette College, Easton, Pa. (22). 1874.
Morley, Prof. Edward W., Hudson, Ohio (18). 1876.
~~Morris, Rev. John G., Baltimore,~~ Md. (12). 1874.
Morse, Prof. E. S., Salem, Mass. (18). 1874.
Morton, H., Stevens Institute Technology, Hoboken, N. J. (18). 1875.
Munroe, Prof. C. E., U. S. Naval Academy, Annapolis, Md. (22). 1874.
Murtfeldt, Miss Mary E., Kirkwood, Mo. (27). 1881.

Nason, Prof. H. B., Rensselaer Polytechnic Inst., Troy, N. Y. (13). 1874.
Nelson, Prof. A. B., Centre College, Danville, Ky. (30). 1882.
~~Nelson, Prof. Edward T., Delaware, Delaware Co.,~~ Ohio (24). 1877.
Newberry, Prof. J. S., Cleveland, Ohio, and Columbia College, New York, N. Y. (5). 1875.
Newcomb, Prof. S., U. S. Naval Observ., Washington, D. C. (13). 1874.
Newton, Hubert A., New Haven, Conn. (6). 1874.
Nichols, E. L., Ph. D., Central Univ. Richmond, Ky. (28). 1881.
Nichols, Prof. W. R., Mass. Inst. Technology, Boston, Mass. (18). 1875.
Niles, Prof. W. H., Cambridge, Mass. (16). 1874.
Nipher, Prof. F. E., Washington University, St. Louis, Mo. (24). 1876.
Norton, Prof. W. A., New Haven, Conn. (6). 1875.
Norwood, Charles J., Ass't Kentucky Geological Survey, Russellville, Ky. (26). 1881.

Oliver, Prof. James E., Cornell University, Ithaca, N. Y. (7). 1875.
Oliver, Miss Mary E., Cascadilla Hotel, Ithaca, N. Y. (20). 1874.
Ordway, Prof. John M., Mass. Inst. Technology, Boston, Mass. (9). 1875.
Orton, Prof. Edward, President Ohio Agricultural and Mechanical College, Columbus, Ohio (19). 1875.
Osborne, J. W., 212 Delaware Ave. N. E., Washington, D. C. (22). 1874.
Osler, Prof. William, McGill College, Montreal, Canada (28). 1881.
Owen, Dr. Richard, New Harmony, Ind. (20). 1874.

Packard, Dr. A. S., jr., 115 Angell St., Providence, R. I. (16). 1875.
Paine, Cyrus F., Rochester, N. Y. (12). 1874.
~~Paine, Nathaniel, Worcester, Mass.~~ (18). 1874.
Palfray, Hon. Charles W., Salem, Mass. (21). 1874.
Parke, John G., Lt. Col. Corps of Eng'rs, Bv't Maj. Gen. U. S. A., Office of Chief of Engineers, Washington, D. C. (29). 1881.
Parkhurst, H. M., Law Stenographer, 25 Chambers St., New York, N. Y. (23). 1874.
Peckham, S. F., Providence, R. I. (18). 1875.
Pedrick, Wm. R., Lawrence, Mass. (22). 1875.
Peet, Rev. Stephen D., Clinton, Wis. (24). 1881.
Peirce, B. O., Beverly, Mass. (18). 1874.
Penhallow, Prof. D. P., McGill College, Montreal, Can. (30). 1882.

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Perkins, Prof. George H., Burlington, Vt. (17). 1882.
Perkins, Maurice, Schenectady, N. Y. (15). 1875.
~~Peter, Dr. Robert, Ky. Geol. Survey, Lexington, Ky.~~ (29). 1881.
Pettee, Prof. William H., Ann Arbor, Mich. (24). 1875.
Phillips, A. W., New Haven, Conn. (24). 1879.
Phippen, Geo. D., Salem, Mass. (18). 1874.
Pickering, Prof. E. C., Director of Observ., Cambridge, Mass. (18). 1875.
Pike, Dr. William H., University College, Toronto, Can. (29). 1881.
Pilling, James C., Box 585, Washington, D. C. (28). 1882.
Platt, Franklin, Ass't Geologist, 2nd Geol. Survey of Pa., 615 Walnut St., Philadelphia, Pa. (27). 1882.
Potter, Prof. William B., Washington University, St. Louis, Mo. (25). 1879.
Powell, Major J. W., U. S. Geologist, 910 M St., Washington, D. C. (23). 1875.
Prentiss, D. Webster, M. D., Washington, D. C. (29). 1882.
Prescott, Prof. Albert B., Ann Arbor, Mich. (23). 1875.
Prime, Frederick, jr., Allentown Iron Co., 230 So. 3d St., Philadelphia, Pa. (24). 1875.
Pritchett, Henry S., Observatory, Washington Univ., St. Louis, Mo. (29). 1881.
Procter, John R., Director Ky. Geol. Survey, Frankfort, Ky. (26). 1881.
Pulsifer, Wm. H., St. Louis, Mo. (26). 1879.
Pumpelly, Prof. Raphael, U. S. Geol. Survey, Newport, R. I. (17). 1875.
Putnam, F. W., Curator Peabody Museum Archæology and Ethnology, Cambridge, Mass. Address as Permanent Secretary A. A. A. S., Salem, Mass. (10). 1874.
Putnam, James J., M. D., 63 Marlborough St., Boston, Mass. (28). 1880.
Pynchon, Rev. T. R., Pres. Trinity College, Hartford, Conn. (23). 1875.

~~Quimby, Prof. E. T., Hanover,~~ N. H. ~~(22)~~. 1874.
Quincy, Edmund, 88 Clinton St., Boston, Mass. (11). 1874.

Rauch, Dr. John H., Chicago, Ill. (11). 1875.
Raymond, Rossiter W., 17 Burling Slip, New York, N. Y. (15). 1875.
Redfield, J. H., care A. Whitney & Sons, Philadelphia, Pa. (1). 1874.
Reed, E. Baynes, London, Ontario, Can. (27). 1882.
Rees, Prof. John K., Washington University, St. Louis, Mo. (26). 1878.
Remsen, Prof. Ira, Johns Hopkins University, Baltimore, Md. (22). 1875.
Rice, John M., U. S. Naval Academy, Annapolis, Md. (25). 1881.
Rice, Prof. Wm. North, Middletown, Conn. (18). 1874.
Richards, Prof. Robert H., Mass. Inst. Tech., Boston, Mass. (22). 1875.
~~Richards, Mrs. Robert~~ H., ~~Mass. Inst. of Tech., Boston, Mass.~~ (23). 1878.
Ricketts, Pierre de Peyster, Ph.D., 10 Cedar St., New York, N. Y. (26). 1880.

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S — RILEY, PROF. C. V., U. S. Entomologist, 1700 13th St. N.W., Washington, D. C. (17). 1874.

~~Ritchie, E. S., 150 Tremont St., Boston, Mass.~~ (10). 1877.

S — Rockwell, Gen. Alfred P., Office Great Falls Manufacturing Co., Boston, Mass. (10). 1882.

S — Rockwood, Prof. Charles G., jr., Princeton, N. J. (20). 1874.

S — Rogers, Fairman, 202 West Rittenhouse Square, Philadelphia, Pa. (11). 1874.

Rogers, Prof. Robert E., Jefferson Medical College, Philadelphia, Pa. (18). 1874.

Rogers, W. A., Ass't Prof. Harvard College Observ., Cambridge, Mass. (15). 1875.

~~Reminger, Dr. Carl, Ann Arbor, Mich.~~ (21). 1879.

S — Rood, Prof. O. N., Cor. E. 49th St. & Madison Ave., New York, N. Y. (14). 1875.

S — Roosevelt, Clinton, 11 Wall St., New York, N. Y. (11). 1874.

S — Ross, Waldo O., 189 Devonshire St., Boston, Mass. (29). 1882.

S Rowland, Prof. Henry A., Baltimore, Md. (29). 1880.

S — Runkle, Prof. J. D., Mass. Inst. of Tech., Boston, Mass. (2). 1875.

S — Russell, I. C., U. S. Geological Survey, Salt Lake City, Utah (25). 1882.

Rutherford, Lewis M., 175 Second Ave., New York, N. Y. (13). 1875.

S — Safford, Dr. James M., Nashville, Tenn. (6). 1875.

Sampson, Comdr. W. T., U. S. N., Naval Observatory, Washington, D. C. (25). 1881.

Saunders, William, London, Ontario, Canada (17). 1874.

S Schanck, Prof. J. Stillwell, Princeton, N. J. (4). 1882.

S — Schott, Charles A., U. S. Coast and Geodetic Survey Office, Washington, D. C. (8). 1874.

Schweitzer, Prof. Paul, State Univ. of Mo., Columbia, Mo. (24). 1877.

S — SCUDDER, SAMUEL H., Cambridge, Mass. (13). 1874.

Seaman, W. H., Microscopist, 1424 11th St. N. W., Washington, D. C. (23). 1874.

Seiler, Carl, M. D., Philadelphia, Pa. (29). 1882.

S — Sestini, Rev. B., Woodstock, Md. (29). 1882.

S — Sheafer, P. W., Pottsville, Pa. (4). 1879.

S — Sias, Solomon, M.D., Schoharie, Schoharie Co., N. Y. (10). 1874.

Sigsbee, Chas. D., Comd'r U. S. N., Navy Dep't, Washington, D. C. (28). 1882.

S — Sill, Hon. Elisha N., Cuyahoga Falls, Ohio (6). 1874.

~~Silliman, Prof. Benj., Yale College,~~ New Haven, Conn. (1). 1874.

Silliman, Prof. Justus M., Lafayette College, Easton, Pa. (19). 1874.

Skinner, Joseph J., New Britain, Conn. (23). 1880.

Smith, Prof. E. A., University of Alabama, Tuscaloosa, Ala. (20). 1877.

Smith, Mrs. Erminnie A., 203 Pacific Ave., Jersey City, N. J. (25). 1880.

Smith, Prof. F. H., University of Virginia, Charlottesville, Va. (26). 1880.

S — Smith, Dr. J. Lawrence, Louisville, Ky. (1). 1874.

S SMITH, QUINTIUS C., M. D., Box 707, Austin, Texas (26). 1881.

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Smith, Prof. S. I., Yale College, New Haven, Conn. (18). 1875.
Smock, Prof. John Conover, Box 282, New Brunswick, N. J. (23). 1879.
Snow, Prof. F. H., Lawrence, Kan. (29). 1881.
Snyder, Prof. Monroe B., High School Observatory, Philadelphia, Pa. (24). 1882.
~~Spencer, Prof. J. William, Univ. of Missouri, Columbia, Mo.~~ (28). 1882.
Spencer, John W., Geol., Paxton, Sullivan Co., Ind. (20). 1874.
Springer, Dr. Alfred, Box 573, Cincinnati, Ohio (24). 1880.
Stallo, J. B., Masonic Temple, Cincinnati, Ohio (30). 1882.
~~Stanard, Benjamin A., Cleveland, Ohio (6)~~. 1874.
Stearns, Henry P., M.D., Hartford, Conn. (23). 1874.
Stearns, R. E. C., Box 13, Berkeley, Cal. (18). 1874.
Steiner, Dr. Lewis H., Frederick City, Md. (7). 1874.
STEPHENS, W. HUDSON, Lowville, N. Y. (18). 1874.
Sternberg, George M., Surgeon U.S.A., Care Surgeon General, U.S.A., Washington, D. C. (24). 1880.
Stevens, W. LeConte, 170 Joralemon St., Brooklyn, N. Y. (29). 1882.
Stockwell, John N., 579 Case Avenue, Cleveland, Ohio (18). 1875.
Stone, George H., Colorado Springs, Col. (29). 1882.
Stone, Mrs. Leander, 3352 Indiana Avenue, Chicago, Ill. (22). 1874.
Stone, Ormond, Director Leander McCormick Observatory, Univ. of Va., Va. (24). 1876.
Storrs, Henry E., Jacksonville, Ill. (20). 1874.
Story, Wm. E., Johns Hopkins Univ., Baltimore, Md. (29). 1881.
Stuart, Prof. A. P. S., Lincoln, Nebraska (21). 1874.
Sturtevant, E. Lewis, M. D., Geneva, N. Y. (29). 1882.
Sutton, Dr. George, Aurora, Dearborn Co., Ind. (20). 1881.
Swallow, Prof. G. C., Columbia, Mo. (10). 1875.
Swift, Lewis, Ph. D., Rochester, N. Y. (29). 1882.

Tainter, Sumner, 1221 Connecticut Ave., Washington, D. C. (29). 1881.
Tappan, Prof. Eli T., Kenyon College, Gambier, Ohio (20). 1874.
Taylor, Arthur F., Ph. D., Case School of Applied Science, Cleveland, Ohio (29). 1882.
Taylor, Wm. B., Smithsonian Institution, Washington, D. C. (29). 1881.
Terry, Prof. N. M., U. S. Naval Academy, Annapolis, Md. (23). 1874.
Thomas, Benj. F., Ph. D., Univ. State of Missouri, Columbia, Mo. (29). 1882.
Thurston, Prof. R. H., Stevens Institute, Hoboken, N. J. (23). 1875.
Todd, Prof. David P., Director Lawrence Observatory, Amherst College, Amherst, Mass. (27). 1881.
Townshend, Prof. N. S., Columbus, Ohio (17). 1881.
Tracy, Sam'l M., Columbia, Boone Co., Mo. (27). 1881.
~~Trembley, J. B., M.D., Oakland, Alameda Co., Cal.~~ (17). 1880.
Trowbridge, Prof. John, Harvard University, Cambridge, Mass. (25). 1876.
Trowbridge, Prof. W. P., New Haven, Conn. (10). 1874.

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True, Fred W., U. S. National Museum, Washington, D. C. (28). 1882.
Trumbull, Dr. J. Hammond, Hartford, Conn. (29). 1882.
Tuttle, Prof. Albert H., Columbus, Ohio (17). 1874.

Uhler, Philip R., Baltimore, Md. (19). 1874.
Upham, Warren, Nashua, N. H. (25). 1880.

Van der Weyde, P. H., M. D., Box 3619, New York, N. Y. (17). 1874.
Van Dyck, Prof. Francis Cuyler, New Brunswick, N. J. (28). 1882.
Van Vleck, Prof. John M., Middletown, Conn. (23). 1875.
Verrill, Prof. A. E., Yale College, New Haven, Conn. (16). 1875.
Vose, Prof. George L., Mass. Inst. Technology, Boston, Mass. (15). 1875.

Wadsworth, M. Edward, Ph. D., Assistant in Lithology, Museum of Comparative Zoology, Cambridge, Mass. (23). 1874.
Walcott, Charles D., U. S. Geol. Survey, Washington, D. C. (25). 1882.
Waldo, Leonard, S. D., New Haven, Conn. (28). 1880.
Walker, Prof. J. R., 154 Canal St., New Orleans, La. (19). 1874.
~~Walker, Prof. Joseph B.~~ (20). 1874.
Wallace, Wm., Ansonia, Conn. (28). 1882.
WALLER, E., School of Mines, Columbia College, New York, N. Y. (23). 1874.
Walling, H. F., U. S. Coast and Geodetic Survey Office, Washington, D. C. (16). 1874.
Ward, Prof. Henry A., Rochester, N. Y. (13). 1875.
Ward, Lester F., U. S. Geological Survey, Washington, D. C. (26). 1879.
Ward, Dr. R. H., 53 Fourth St., Troy, N. Y. (17). 1874.
Warder, Prof. Robert B., North Bend, Hamilton Co., Ohio (19). 1881.
WARNER, JAMES D., 199 Baltic St., Brooklyn, N. Y. (18). 1874.
Warren, Cyrus M., Brookline, Mass. (29). 1882.
Warren, Prof. S. Edward, Newton, Mass. (17). 1875.
Watson, Sereno, Botanic Gardens, Cambridge, Mass. (22). 1875.
Wead, Prof. Charles K., Univ. of Michigan, Ann Arbor, Mich. (23). 1880.
Webster, Prof. H. E., Union College, Schenectady, N. Y. (23). 1882.
Webster, Prof. N. B., Principal Webster Inst., Norfolk, Va. (7). 1874.
Wells, Daniel H., Hartford, Conn. (18). 1875.
Westcott, O. S., Maywood, Cook Co., Ill. (21). 1874.
Wheatland, Dr. Henry, President Essex Inst., Salem, Mass. (1). 1874.
Wheeler, Capt. Geo. M., U. S. E., Lock Box 93, Washington, D. C. (25). 1879.
Wheeler, Orlando B., Ass't U. S. Lake Survey, Detroit, Mich. (24). 1882.
Wheildon, W. W., Concord, Mass. (13). 1874.
White, Prof. C. A., Le Droit Park, Washington, D. C. (17). 1875.
White, Prof. I. C., Univ. of W. Va., Morgantown, W. Va. (25). 1882.

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Whitfield, R. P., American Museum Natural History, 77th St. & 8th Avenue, New York, N. Y. (18). 1874.
Whitman, Chas. O., care G. F. Leonard, Newton Highlands, Mass. (27). 1880.
Whitney, Solon F., Watertown, Mass. (20). 1874.
Whittlesey, Col. Charles, 1305 Euclid Ave., Cleveland, Ohio (1). 1875.
Wilber, G. M., Pine Plains, N. Y. (19). 1874.
Wilbur, A. B., Port Jervis, Orange Co., N. Y. (23). 1874.
Wilder, Prof. Burt G., Cornell University, Ithaca, N. Y. (22). 1875.
Wiley, Prof. Harvey W., Dept. of Agric., Washington, D. C. (21). 1874.
~~Williams, Charles H., M.D., 15 Arlington St., Boston, Mass.~~ (22). 1874.
Williams, H. S., Cornell Univ., Ithaca, N. Y. (18). 1882.
~~Williams, Prof. Henry W., 15 Arlington St., Boston, Mass.~~ (11). 1874.
Wilson, Prof. Daniel, President University College, 117 Bloor St., Toronto, Canada (25). 1876.
Winchell, Prof. Alex., Ann Arbor, Mich. (3). 1875.
Winchell, Prof. N. H., Univ. of Minnesota, Minneapolis, Minn. (19). 1874.
Winsor, Justin, Librarian Harvard Univ., Cambridge, Mass. (29). 1882.
Woerd, Chas. V., Am. Watch Co., Waltham, Mass. (29). 1881.
Wood, Prof. De Volson, Hoboken, N. J. (29). 1881.
Wormley, T. G., Univ. of Pennsylvania, Philadelphia, Pa. (20). 1878.
Worthen, A. H., Springfield, Ill. (5). 1874.
Wright, Prof. Albert A., Oberlin College, Oberlin, Ohio (24). 1880.
Wright, Prof. Arthur W., Yale College, New Haven, Conn. (14). 1874.
Wright, Rev. Geo. F., Oberlin College, Oberlin, Ohio (29). 1882.
Würtele, Rev. Louis C., Acton Vale, Province of Quebec, Can. (11). 1875.
Wyckoff, Wm. C., 44 Howard St., New York, N. Y. (20). 1874.
Wylie, Prof. Theoph. A., Indiana Univ., Bloomington, Ind. (20). 1874.

Youmans, Prof. Edward L., New York, N. Y. (6). 1874.
Young, C. A., Prof. of Astronomy, College of New Jersey, Princeton, N. J. (18). 1874.

Zentmayer, Joseph, 147 So. Fourth St., Philadelphia, Pa. (29). 1882.

[516 FELLOWS.]

TOTAL NUMBER OF MEMBERS OF THE ASSOCIATION, 1923.

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DECEASED MEMBERS.

[Information respecting omissions in this list, and the date of birth and of decease of any of the former members, is requested by the Permanent Secretary.]

Abbe, George W., New York, N. Y. (23). Died Sept. 25, 1879.
Abert, J. J., Washington, D. C. (1). Born in 1785. Died January 27, 1863.
Adams, C. B., Amherst, Mass. (1). Born January 11, 1814. Died Jan'y [19, 1853.
Adams, Edwin F., Charlestown, Mass. (18).
Adams, Samuel, Jacksonville, Ill. (18). Born Dec.19, 1806. Died April 29, 1877.
Agassiz, Louis, Cambridge, Mass. (1). Born May 28, 1807. Died Dec. [14, 1873.
Ainsworth, J. G., Barry, Mass. (14).
Alexander, Stephen, Princeton, N. J. (1). Born Sept. 1, 1806. Died June 25, 1883.
Allen, Thomas, St. Louis, Mo. (27). Died April 8, 1882.
Allen, Zachariah, Providence, R. I. (1). Died March 17, 1882.
Allston, R. F. W., Georgetown, S. C. (3). Born April 21, 1801. Died April 7, 1864.
Ames, M. P., Springfield, Mass. (1). Born in 1803. Died April 23, 1847.
Andrews, Ebenezer B., Lancaster, Ohio (7). Died Aug. 21, 1880, aged 59.
Anthony, Charles H., Albany, N. Y. (6). Died in 1874.
Appleton, Nathan, Boston, Mass. (1). Born Oct. 6, 1779. Died July 14, [1861.
Armstrong, John W., Fredonia, N. Y. (24).
Atwater, Mrs. S. T., Chicago, Ill. (17). Born Aug. 8, 1812. Died April 11, [1878.
Aufrecht, Louis, Cincinnati, Ohio (30).

Bache, Alexander D., Washington, D. C. (1). Born July 19, 1806. Died Feb. 17, 1867.
Bache, Franklin, Philadelphia, Pa. (1). Born Oct. 25, 1792. Died March 19, 1864.
Bailey, Jacob W., West Point, N. Y. (1). Born April 29, 1811. Died Feb. 26, 1857.
Bardwell, F. W., Lawrence, Kan. (13). Died in 1878.
Barnard, John G., New York, N. Y. (14). Died May 14, 1882.
Barrett, Moses, Milwaukee, Wis. (21). Died in 1873.
Barry, Redmond, Melbourne, Australia (25).
Beck, C. F., Philadelphia, Pa. (1).
Beck, Lewis C., New Brunswick, N. J. (1). Born Oct. 4, 1798. Died April 21, 1853.
Beck, T. Romeyn, Albany, N. Y. (1). Born Aug. 11, 1791. Died Nov. 19, 1855.

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Belfrage, G. W., Clifton, Texas (29). Died Dec. 7, 1882.
Belt, Thomas, London, Eng. (27). Died Sept. 8, 1878.
Benedict, George W., Burlington, Vt. (16). Born Jan. 11, 1796. Died in 1871.
Bicknell, Edwin, Boston, Mass. (18). Born in 1830. Died March 19,1877.
Binney, Amos, Boston, Mass. (1). Born Oct. 18, 1803. Died Feb. 18, [1847.
Binney, John, Boston, Mass. (3).
Blackie, Geo. S., Nashville, Tenn. (26).
Blake, Homer C., New York, N. Y. (28). Born Feb. 1, 1822.
Blanding, William, ———, R. I. (1).
Blatchford, Thomas W., Troy, N. Y. (6).
Blatchley, Miss S. L., New Haven, Conn. (19).
Boadle, John, Haddonfield, N. J. (20). Born in 1805. Died in July, 1878.
Bomford, George, Washington, D. C. (1). Born 1780. Died March 25, 1848.
Bowron, James, South Pittsburg, Tenn. (26). Died in Dec., 1877.
Bradley, Leverette, Jersey City, N. J. (15). Died in 1875.
Braithwaite, Jos., Chambly, C. W. (11).
Briggs, Albert D., Springfield, Mass. (13). Died Feb. 20, 1881.
Briggs, Robert, Philadelphia, Pa. (29).
Brigham, Charles H., Ann Arbor, Mich. (17). Born July 27, 1820. Died in Jan., 1879.
Brown, Andrew, Natchez, Miss. (1).
Brown, Horace, Salem, Mass. (27).
Burbank, L. S., Woburn, Mass. (18).
Burnap, G. W., Baltimore, Md. (12). Born Nov. 30, 1802. Died Sept. 8, 1859.
Burnett, Waldo I., Boston, Mass. (1). Died July 1, 1854, aged 27.
Butler, Thomas B., Norwalk, Conn. (10). Born Aug. 22, 1806. Died June 8, 1873.

Cairns, F. A., New York, N. Y. (27). Died in 1879.
Campbell, Mrs. Mary H., Crawfordsville, Ind. (22). Died Feb. 27, 1882.
Carpenter, Thornton, Camden, S. C. (7).
Carpenter, William M., New Orleans, La. (1).
Case, Leonard, Cleveland, Ohio (15). Born June 27, 1820. Died Jan. 5, [1880.
Case, William, Cleveland, Ohio (6).
Caswell, Alexis, Providence, R. I. (2). Born Jan. 29, 1799. Died Jan. 8, 1877.
Chadbourne, Paul Ansel, Amherst, Mass. (10). Born Oct. 21, 1823. Died Feb. 23, 1883.
Chapman, N., Philadelphia, Pa. (1). Born May 28, 1780. Died July 1, 1853.
Chase, Stephen, Hanover, N. H. (2). Born in 1813. Died Aug. 5, 1851.
Chauvenet, William, St. Louis, Mo. (1). Born May 24, 1819. Died Dec. [13, 1870.
Cheney, Miss Margaret S., Jamaica Plain, Mass. (29).
Clapp, Asahel, New Albany, Ind. (1). Born Oct. 5, 1792. Died Dec. 15, 1862.

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Clark, Henry James, Cambridge, Mass. (13). Died July 1, 1873, aged 47.
Clark, Joseph, Cincinnati, Ohio (5).
Clarke, A. B., Holyoke, Mass. (13).
Cleaveland, C. H., Cincinnati, Ohio (9).
Cleveland, A. B., Cambridge, Mass. (2).
Coffin, James H., Easton, Pa. (1). Born Sept. 6, 1806. Died Feb. 6, 1873.
Cole, Thomas, Salem, Mass. (1). Born Dec. 24, 1779. Died June 24, 1852.
Coleman, Henry, Boston, Mass. (1).
Collins, Frederick, Washington, D. C. (28). Born Dec. 5, 1842. Died Oct. 27, 1881.
Conrad, Timothy Abbott, Philadelphia, Pa. (1). Born in August, 1803. Died August 9, 1877.
Cooke, Caleb, Salem, Mass. (18). Born Feb. 15, 1838. Died June 5, 1880.
Cooper, William, Hoboken, N. J. (9). Died in 1864.
Corning, Erastus, Albany, N. Y. (6). Born Dec. 14, 1794. Died April 9, 1872.
Couper, James Hamilton, Darien, Ga. (1). Born March 5, 1794. Died July 3, 1866.
Cramp, J. M., Wolfville, N. S. (11). Born July 25, 1796. Died Dec. 6, 1881.
Crocker, Charles F., Lawrence, Mass. (22). Died in July, 1881.
Crosby, Alpheus, Salem, Mass. (10). Born Oct. 13, 1810. Died Apr. 17, 1874.
Crosby, Thomas R., Hanover, N. H. (18). Born Oct. 22, 1816. Died March 1, 1872.
Croswell, Edwin, Albany, N. Y. (6). Born in May, 1797. Died June 13, [1871.
Curry, W. F., Geneva, N. Y. (11).

Dalrymple, E. A., Baltimore, Md. (11). Died Oct. 30, 1881.
Dayton, Edwin A., Madrid, N. Y. (7). Born in 1827. Died June 24, 1873.
Dean, Amos, Albany, N. Y. (6). Born Jan. 16, 1803. Died Jan. 26, 1868.
Dearborn, George H. A. S., Roxbury, Mass. (1).
Dekay, James E., New York, N. Y. (1). Born in 1792. Died Nov. 21, 1851.
DeLaski, John, Carver's Harbor, Me. (18).
Dewey, Chester, Rochester, N. Y. (1). Born Oct. 25, 1781. Died Dec. 15, [1867.
Dexter, G. M., Boston, Mass. (11).
Dillingham, W. A. P., Augusta, Me. (17).
Doggett, Wm. E., Chicago, Ill. (17). Born Nov. 20, 1820. Died in 1876.
Doolittle, L., Lenoxville, C. E. (11). Died in 1862.
Dorr, E. P., Buffalo, N. Y. (25). Died March 28, 1881.
Draper, Henry, New York, N. Y. (28).
Ducatel, J. T., Baltimore, Md. (1).
Duffield, George, Detroit, Mich. (10). Born July 4, 1794. Died June 26, 1869.
Dumont, A. H., Newport, R. I. (14).
Duncan, Lucius C., New Orleans, La. (10). Died Aug. 9, 1855, aged 54.
Dunn, R. P., Providence, R. I. (14).

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Easton, Norman, Fall River, Mass. (14).
Eaton, James H., Beloit, Wis. (17). Died Jan. 5, 1877.
Ely, Charles Arthur, Elyria, Ohio (4).
Emerson, Geo. B., Boston, Mass. (1). Born Sept. 12, 1797. Died March 4, 1881.
Emmons, Ebenezer, Williamstown, Mass. (1). Born May 16, 1799. Died October 1, 1863.
Engstrom, A. B., Burlington, N. J. (1).
Everett, Edward, Boston, Mass. (2). Born April 11, 1794. Died Jan. 15, 1865.
Ewing, Thomas, Lancaster, Ohio (5). Born Dec. 28, 1789. Died Oct. 26, 1871.

Faries, R. J., Wauwatosa, Wis. (21). Died May 31, 1878.
Ferris, Isaac, New York, N. Y. (6). Born Oct. 9, 1798. Died June 16, 1873.
Feuchtwanger, Lewis, New York, N. Y. (11). Died in 1876.
Fillmore, Millard, Buffalo, N. Y. (7). Born Jan. 7, 1800. Died March 8, 1874.
Fisher, Mark, Trenton, N. J. (10).
Fitch, Alexander, Hartford, Conn. (1). Born March 25, 1799. Died Jan. 20, 1859.
Fitch, O. H., Ashtabula, Ohio (7). Died Sept. 17, 1882, in his 80th year.
Forbush, E. B., Buffalo, N. Y. (15).
Force, Peter, Washington, D. C. (4). Born Nov. 26, 1790. Died Jan. 23, 1868.
Ford, A. C., Nashville, Tenn. (26).
Forshey, Caleb G., New Orleans, La. (21). Died in Aug., 1881.
Foster, John W., Chicago, Ill. (1). Born March 4, 1815. Died June 29, 1873.
Foucon, Felix, Madison, Wis. (18).
Fowle, Wm. B., Boston, Mass. (1). Born Oct. 17, 1795. Died Feb. 6, 1865.
Fox, Charles, Grosse Ile, Mich. (7).
Frazer, John F., Philadelphia, Pa. (1). Born July 8, 1812. Died Oct. 14, 1872.
French, J. W., West Point, N. Y. (11).

Garber, A. P., Columbia, Pa. (29). Died Aug. 26, 1881.
Gavit, John E., New York, N. Y. (1).
Gay, Martin, Boston, Mass. (1). Died Jan. 12, 1850, aged 46.
Gibbon, J. H., Charlotte, N. C. (3).
Gillespie, W. M., Schenectady, N. Y. (10). Born in 1816. Died Jan'y 1, 1868.
Gilmor, Robert, Baltimore, Md. (1).
Glazier, W. W., Key West, Fla. (29). Died Dec. 11, 1880.
Goldmark, J., New York, N. Y. (29). Died in April, 1882.
Gould, Augustus A., Boston, Mass. (11). Born April 23, 1805. Died Sept. 15, 1866.
Gould, B. A., Boston, Mass. (2). Born June 15, 1787. Died Oct. 24, 1859.

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Graham, James D., Washington, D. C. (1). Born in 1799. Died Dec. 28, 1865.
Gray, Alonzo, Brooklyn, N. Y. (13). Born in 1808. Died March 10, 1860.
Gray, James H., Springfield, Mass. (6).
Greene, Benjamin D., Boston, Mass. (1). Died Oct. 14, 1862, aged 68.
Greene, Everett W., Madison, N. J. (10). Died in 1864.
Greene, Samuel, Woonsocket, R. I. (9). Died in 1868.
Greer, James, Dayton, Ohio (20).
Griffith, Robert E., Philadelphia, Pa. (1).
Griswold, John A., Troy, N. Y. (19). Born in 1822. Died Oct. 31, 1872.
Guest, William E., Ogdensburg, N. Y. (6).

Hackley, Charles W., New York, N. Y. (4). Born March 9, 1809. Died January 10, 1861.
Hadley, George, Buffalo, N. Y. (6). Born June, 1813. Died Oct. 16, 1877.
Haldeman, S. S., Chickies, Pa. (1). Died Sept. 10, 1880, aged 68.
Hale, Enoch, Boston, Mass. (1). Born Jan. 29, 1790. Died Nov. 12, 1848.
Hance, Ebenezer, Fallsington P. O., Pa. (7). Died in 1876.
Hare, Robert, Philadelphia, Pa. (1). Born Jan. 17, 1781. Died May 15, 1858.
Harlan, Joseph G., Haverford, Pa. (8).
Harlan, Richard, Philadelphia, Pa. (1).
Harris, Thaddeus W., Cambridge, Mass. (1). Born Nov. 12, 1795. Died Jan. 16, 1856.
Harrison, A. M., Plymouth, Mass. (29).
Harrison, Jos., jr., Philadelphia, Pa. (12).
Hart, Simeon, Farmington, Conn. (1). Died April 20, 1853, aged 57.
Hartt, Charles F., Ithaca, N. Y. (18). Born in 1840. Died March 18, 1878.
Haven, Joseph, Chicago, Ill. (17). Born Jan. 4, 1816. Died May 23, 1874.
Hawes, George W., Washington, D. C. (23). Born Dec. 31, 1848. Died June 22, 1882.
Hayden, H. H., Baltimore, Md. (1).
Hayward, James, Boston, Mass. (1). Died July 27, 1866, aged 80.
Henry, Jos., Washington, D. C. (1). Born Dec. 17, 1797. Died May 13, 1878.
Hickox, S. V. R., Chicago, Ill. (17). Died in 1872.
Hilgard, Theo. C., St. Louis, Mo. (17). Born Feb. 28, 1828. Died Mch. 5, 1875.
Hincks, William, Toronto, C. W. (11).
Hitchcock, Edward, Amherst, Mass. (1). Born May 24, 1793. Died Feb. 27, 1864.
Hodgson, W. B., Savannah, Ga. (10). Born 1815.
Holbrook, John E., Charleston, S. C. (1). Born Dec. 31, 1796. Died Sept. 8, 1871.
Hopkins, Albert, Williamstown, Mass. (19). Born July 14, 1807. Died May 25, 1872.
Hopkins, James G., Ogdensburg, N. Y. (10). Died in 1860.
Hopkins, T. O., Williamsville, N. Y. (10). Died in 1866.
Hopkins, Wm., Lima, N. Y. (5.) Died in March, 1867.

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Horton, C. V. R., Chaumont, N. Y. (10). Died in 1862.
Horton, William, Craigville, N. Y. (1).
Hosford, Benj. F., Haverhill, Mass. (13). Died in 1864.
Houghton, Douglas, Detroit, Mich. (1). Born Sept. 21, 1809. Died Oct. 13, 1845.
Hovey, Edmund O., Crawfordsville, Ind. (20). Born July 15, 1801. Died March 10, 1877.
Howland, Theodore, Buffalo, N. Y. (15).
Hubbert, James, Richmond, Province of Quebec (16). Died in 1868.
Hunt, Edward B., Washington, D. C. (2). Born June 15, 1822. Died Oct. 2, 1863.
Hunt, Freeman, New York, N. Y. (11). Born March 21, 1804. Died March 2, 1858.

Ives, Moses B., Providence, R. I. (9). Died in 1857.
Ives, Thomas P., Providence, R. I. (10).

Jackson, Charles T., Boston, Mass. (1). Born June 21, 1805. Died Aug. 29, 1880.
James, Thomas Potts, Cambridge, Mass. (22). Born Sept. 1, 1803. Died Feb. 22, 1882.
Johnson, Walter R., Washington, D. C. (1). Born June 21, 1794. Died April 26, 1852.
Jones, Catesby A. R., Washington, D. C. (8).
Jones, James H., Boston, Mass. (28).

Kedzie, W. K., Oberlin, Ohio (25).
Keely, George W., Waterville, Me. (1). Died in 1878.
Keep, N. C., Boston, Mass. (13). Died in 1875.
Kennicott, Robert, West Northfield, Ill. (12). Born Nov. 13, 1835. Died in 1866.
King, Mitchell, Charleston, S. C. (3). Born June 8, 1783. Died in 1862.
Klippart, John H., Columbus, Ohio (17). Died October, 1878.
Knickerbocker, Charles, Chicago, Ill. (17). Died in 1873.
Knight, J. B., Philadelphia, Pa. (21). Died March 10, 1879.

Lacklan, R., Cincinnati, Ohio (11).
Lapham, Increase A., Milwaukee, Wis. (3). Born Mch. 7, 1811. Died Sept. 14, 1875.
LaRoche, R., Philadelphia, Pa. (12).
Lasel, Edward, Williamstown, Mass. (1). Born Jan. 21, 1809. Died in 1852.
Lawford, Frederick, Montreal, Canada (11). Died in 1866.
Lederer, Baron von, Washington, D. C. (1).
Lieber, Oscar M., Columbia, S. C. (8). Born Sept. 8, 1830. Died June 27, 1862.
Lincklaen, Ledyard, Cazenovia, N. Y. (1).
Linsley, James H., Stafford, Conn. (1). Born May 5, 1787. Died Dec. 26, 1843.
Lockwood, Moses B., Providence, R. I. (9). Died in 1872.

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Logan, William E., Montreal, Canada (1). Born April 23, 1798. Died June 22, 1875.
Loosey, Charles F., New York, N. Y. (12).
Lothrop, Joshua R., Buffalo, N. Y. (15).
Lyon, Sidney S., Jeffersonville, Ind. (20). Born Aug. 4, 1808. Died June 24, 1872.

Maack, G. A., Cambridge, Mass. (18).
Mahan, Dennis H., West Point, N. Y. (9). Born April 2, 1802. Died Sept. 16, 1871.
Marsh, Dexter, Greenfield, Mass. (1).
Marsh, James E., Roxbury, Mass. (10).
Mather, William W., Columbus, Ohio (1). Born May 24, 1804. Died Feb. 27, 1859.
Maude, John B., St. Louis, Mo. (27). Died in April, 1879.
Maupin, S., Charlottesville, Va. (10).
M'Conihe, Isaac, Troy, N. Y. (5).
McMahon, Mathew, Albany, N. Y. (11).
Meade, George G., Philadelphia, Pa. (15). Born Dec. 30, 1815. Died Nov. 6, 1872.
Meek, F. B., Washington, D. C. (6). Born December 10, 1817. Died December 21, 1876.
Meigs, James Aitken, Philadelphia, Pa. (12). Born July 30, 1829. Died Nov. 9, 1879.
Minifie, William, Baltimore, Md. (12). Born in 1805. Died Oct. 24, 1880.
Mitchel, O. M., Cincinnati, Ohio (3). Born Aug. 28, 1810. Died Oct. 30, 1862.
Mitchell, William, Poughkeepsie, N. Y. (2). Died April 2, 1869, aged 76.
Mitchell, Wm. H., Florence, Ala. (17).
Morgan, Lewis H., Rochester, N. Y. (10). Born Nov. 21, 1818. Died Dec. 17, 1881.
Morris, John B., Nashville, Tenn. (26).
Morton, Samuel G., Philadelphia, Pa. (1). Born Jan. 26, 1799. Died May 15, 1851.
Mudge, Benjamin F., Manhattan, Kansas (25). Born Aug. 11, 1817. Died Nov. 21, 1879, aged 62.
Munroe, Nathan, Bradford, Mass. (6). Born May 16, 1804. Died July 8, [1866.
Munroe, William, Concord, Mass. (18). Died April 27, 1877.
Mussey, William H., Cincinnati, Ohio (30). Born Sept. 13, 1818. Died Aug. 1, 1882.

Newland, John, Saratoga Springs, N. Y. (28). Died Jan. 18, 1880.
Newton, E. H., Cambridge, N. Y. (1).
Nichols, Charles A., Providence, R. I. (17). Born Jan. 4, 1826. Died Oct. 20, 1877.
Nicholson, Thomas, New Orleans, La. (21).

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Nicollett, Jean N., Washington, D. C. (1). Born July 24, 1786. Died Sept. 11, 1843.

Norton, John P., New Haven, Conn. (1). Born in July, 1822. Died Sept. 5, 1852.

Noyes, J. O., New Orleans, La. (21).

Nutt, Cyrus, Bloomington, Ind. (20). Died in 1875.

Oakes, Wm., Ipswich, Mass. (1). Born July 1, 1799. Died July 31, 1848.

Ogden, Robert W., New Orleans, La. (21). Died March 24, 1878.

Ogden, William B., High Bridge, Westchester Co., N. Y. (17). Born in 1805. Died Aug. 3, 1877.

Olmsted, Alexander F., New Haven, Conn. (4). Born Dec. 20, 1822. Died May 5, 1853.

Olmsted, Denison, New Haven, Conn. (1). Born June 18, 1791. Died May 13, 1859.

Olmsted, Denison, jr., New Haven, Conn. (1). Born Feb. 16, 1824. Died Aug. 15, 1846.

Otis, George Alexander, Washington, D. C. (10). Born Nov. 12, 1830. Died Feb. 23, 1881.

Painter, Jacob, Lima, Pa. (23). Died in 1876.

Painter, Minshall, Lima, Pa. (7).

Parker, Wilbur F., West Meriden, Conn. (23). Died in 1876.

Parkman, Samuel, Boston, Mass. (1). Died Dec. 15, 1854, aged 38.

Payn, Charles H., Saratoga Springs, N. Y. (28). Born May 16, 1814. Died Dec. 20, 1881.

Peirce, Benjamin, Cambridge, Mass. (1). Born April 4, 1809. Died Oct. 6, 1880.

Perkins, George R., Utica, N. Y. (1). Born May 3, 1812. Died Aug. 22, 1876.

Perkins, Henry C., Newburyport, Mass. (18). Born Nov. 13, 1804. Died Feb. 2, 1873.

Perry, John B., Cambridge, Mass. (16). Died Oct. 3, 1872, aged 52.

Perry, M. C., New York, N. Y. (10).

Piggot, A. Snowden, Baltimore, Md. (10).

Plumb, Ovid, Salisbury, Conn. (9).

Pope, Charles A., St. Louis, Mo. (12). Born May 15, 1818. Died July 6, 1870.

Porter, John A., New Haven, Conn. (14). Born March 15, 1822. Died Aug. 25, 1866.

Pourtalès, Louis François de, Cambridge, Mass. (1). Born in 1822. Died July 18, 1880.

Pruyn, John V. L., Albany, N. Y. (1). Born June 22, 1811. Died Nov. 21, 1877.

Pugh, Evan, Centre Co., Pa. (14).

Putnam, Mrs. F. W., Cambridge, Mass. (19). Born Dec. 29, 1838. Died March 10, 1879.

Putnam, J. Duncan, Davenport, Iowa. (27). Born Oct. 18, 1855. Died Dec. 10, 1881.

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Read, Ezra, Terre Haute, Ind. (20). Died in 1877.
Redfield, William C., New York, N. Y. (1). Born March 26, 1789. Died Feb. 12, 1857.
Resor, Jacob, Cincinnati, Ohio (8). Died in 1871.
Robb, James, Fredericton, N. B. (4).
Robinson, Coleman T., Buffalo, N. Y. (15).
Rockwell, John A., Norwich, Conn. (10). Born August 27, 1803. Died February 10, 1861.
Rogers, Henry D., Glasgow, Scotland (1). Born 1809. Died May 29, 1866.
Rogers, James B., Philadelphia, Pa. (1). Born February 22, 1803. Died June 15, 1852.
Rogers, William Barton, Boston, Mass. (1). Born Dec. 7, 1804. Died May 30, 1882.
Root, Elihu, Amherst, Mass. (25). Born Sept. 14, 1845.

Sager, Abram, Ann Arbor, Mich. (6). Born December 22, 1810. Died August 6, 1877.
Schaeffer, Geo. C., Washington, D. C. (1). Died in 1873.
Schley, William, New York, N. Y. (28). Died in 1882.
Scott, Joseph, Dunham, C. E. (11). Died in 1865.
Senter, Harvey S., Aledo, Ill. (20). Died in 1875.
Seward, William H., Auburn, N. Y. (1). Born May 16, 1801. Died Oct. 10, 1872.
Sheppard, William, Drummondville, Province of Quebec, Can. (11). Born in 1783. Died in 1867.
Sherwin, Thomas, Dedham, Mass. (11). Born March 26, 1799. Died July 23, 1869.
Silliman, Benjamin, New Haven, Conn. (1). Born August 8, 1779. Died November 22, 1864.
Skinner, John B., Buffalo, N. Y. (15). Died in 1871.
Slack, J. H., Philadelphia, Pa. (12).
Smith, David P., Springfield, Mass. (29). Born Oct. 1, 1830. Died Dec. 26, 1880.
Smith, J. V., Cincinnati, Ohio (5).
Smith, James Y., Providence, R. I. (9). Born September 15, 1809. Died in 1876.
Smith, Lyndon A., Newark, N. J. (9). Born November 11, 1795. Died December 15, 1865.
Snell, Ebenezer S., Amherst, Mass. (2). Born October 7, 1801. Died in September, 1877.
Sparks, Jared, Cambridge, Mass. (2). Born May 10, 1789. Died March 14, 1866.
Spinzig, Charles, St. Louis, Mo. (27). Died Jan. 22, 1882.
Stimpson, William, Chicago, Ill. (12). Died May 26, 1872.
Stone, Samuel, Chicago, Ill. (17). Born Dec. 6, 1798. Died May 4, 1876.
St. John, Joseph S., Albany, N. Y. (28). Died Nov. 23, 1882.
Sullivant, Wm. S., Columbus, Ohio (7). Born Jan. 15, 1803. Died April 30, 1873.
Swain, James, Fort Dodge, Iowa (21). Born in 1816. Died in 1877.

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Tallmadge, James, New York, N. Y. (1). Born Jan. 20, 1778. Died Oct. 3, 1853.
Taylor, Richard C., Philadelphia, Pa. (1). Born January 18, 1789. Died November 26, 1851.
Tenney, Sanborn, Williamstown, Mass. (17). Born in January, 1827. Died July 11, 1877.
Teschemacher, J. E., Boston, Mass. (1). Died Nov. 9, 1853, aged 63.
Thompson, A. Remsen, New York, N. Y. (1). Died in Oct., 1879.
Thompson, Alexander, Aurora, N. Y. (1).
Thompson, Zadock, Burlington, Vt. (1). Born May 23, 1796. Died Jan. 19, 1856.
Thurber, Isaac, Providence, R. I. (9).
Tillman, Samuel D., Jersey City, N. J. (15). Died in 1875.
Tolderoy, James B., Fredericton, N. B. (11).
Torrey, John, New York, N. Y. (1). Born August 15, 1796. Died March 10, 1873.
Torrey, Joseph, Burlington, Vt. (2). Born Feb. 2, 1797. Died Nov. 26, 1867.
Totten, Joseph G., Washington, D. C. (1). Born August 23, 1788. Died April 22, 1864.
Townsend, Howard, Albany, N. Y. (10). Died in 1867.
Townsend, John K., Philadelphia, Pa. (1).
Townsend, Robert, Albany, N. Y. (9). Died in 1866.
Troost, Gerard, Nashville, Tenn. (1). Born March 15, 1776. Died Aug. 14, 1850.
Tuomey, Michael, Tuscaloosa, Ala. (1). Born September 29, 1805. Died March 20, 1857.
Tyler, Edward R., New Haven, Conn. (1). Died Sept. 28, 1848.

Vancleve, John W., Dayton, Ohio (1).
Vanuxem, Lardner, Bristol, Pa. (1).
Vaux, William S., Philadelphia, Pa. (1). Born May 19, 1811. Died May 5, 1882.

Wadsworth, James S., Genesee, N. Y. (2). Born October 30, 1807. Died May 8, 1864.
Wagner, Tobias, Philadelphia, Pa. (9).
Walker, Joseph, Oxford, N. Y. (10).
Walker, Sears C., Washington, D. C. (1). Born March 28, 1805. Died January 30, 1853.
Walker, Timothy, Cincinnati, Ohio (4). Born Dec. 1, 1802. Died Jan. 15, 1856.
Walsh, Benjamin D., Rock Island, Ill. (17).
Wanzer, Ira, Brookfield, Conn. (18). Born April 17, 1796. Died March 5, 1879.
Warren, Gouverneur Kemble, Newport, R. I. (12). Died Aug. 8, 1882, in his 64th year.
Warren, John C., Boston, Mass. (1). Born Aug. 1, 1778. Died May 4, 1856.

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Watertown, Charles, Wakefield, Eng. (1).
Watkins, Samuel, Nashville, Tenn. (26).
Watson, J. Craig, Ann Arbor, Mich. (13). Born Jan. 28, 1838. Died Nov. 23, 1880.
Webster, Horace B., Albany, N. Y. (1). Died Dec. 8, 1843.
Webster, J. W., Cambridge, Mass. (1). Died Aug. 30, 1850, aged 57.
Webster, M. H., Albany, N. Y. (1).
Weed, Monroe, Wyoming, N. Y. (6). Died in 1867.
Welch, Mrs. G. O., Lynn, Mass. (21). Died in June, 1882.
Weyman, George W., Pittsburgh, Pa. (6). Born April, 1832. Died July 16, 1864.
Wheatley, Charles M., Phœnixville, Pa. (1). Died May 6, 1882.
Wheatland, Richard H., Salem, Mass. (13). Born July 6, 1830. Died Dec. 21, 1863.
Wheeler, Arthur W., Baltimore, Md. (29). Born in March, 1859. Died Jan. 6, 1881.
White, Samuel S., Philadelphia, Pa. (23). Died Dec. 30, 1879.
Whiting, Lewis E., Saratoga Springs, N. Y. (28). Born March 7, 1815. Died Aug. 2, 1882.
Whitman, Wm. E., Philadelphia, Pa. (23). Died in 1875.
Whitney, Asa, Philadelphia, Pa. (1). Born Dec. 1, 1791. Died June 4, 1874.
Whittlesey, Charles C., St. Louis, Mo. (11). Died in 1872.
Willard, Emma, Troy, N. Y. (15). Born Feb. 23, 1787. Died April 15, 1870.
Williamson, R. S., San Francisco, Cal. (12).
Wilson, W. C., Carlisle, Pa. (12).
Winlock, Joseph, Cambridge, Mass. (5). Born Feb. 6, 1826. Died June 11, 1875.
Woodbury, Levi, Portsmouth, N. H. (1). Born Dec. 22, 1789. Died Sept. 4, 1851.
Woodman, John S., Hanover, N. H. (11). Born in 1819. Died May 15, 1871.
Wright, John, Troy, N. Y. (1).
Wyman, Jeffries, Cambridge, Mass. (1). Born Aug. 11, 1814. Died Sept. 4, 1874.

Yarnall, M., Washington, D. C. (26). Born in 1817. Died Jan. 27, 1879.
Young, Ira, Hanover, N. H. (1). Died Sept. 14, 1858, aged 57.

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